On the cover:
“Faces #1” by David Bovill, MD, is an aluminum styelt sculpture. This collection of faces is a hanging mobile and part of a series of sculptures created using anesthetic endotrachial tube stylets and industrial silicone glue. Dr Bovill says that each of his sculptures represents a patient or colleague.

Dr Bovill is an orthopaedic surgeon at the Kaiser Permanente South Sacramento facility. He is involved with the American Academy of Orthopaedic Surgery traveling art show: Emotion Pictures (http://emotion.aaos.org/). His orthopaedic surgeon father and artist mother provide his inspiration. Dr Bovill has worked in many media, including watercolors and oils. Currently, he prefers creating sculptures using discarded anesthetic endotracheal tube stylets, bending them into two- and three-dimensional faces. He says these sculptures: “…help me remember that I am treating people, not simply bones, joints, or x-rays.”

E-mail: david.bovill@kp.org.

More of Dr Bovill’s artwork can be seen on page 53.

The Permanente Journal
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Portland, Oregon 97232
www.kp.org/permanentejournal

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With the aging of the American population and the additional burden it has created on the health care system, it is important to develop cost-effective, patient-centered palliative care at the end of life. This article describes the Vohs-Award-winning program that demonstrates effectiveness in improving symptom management, in offering psychosocial support and in reducing overall costs.

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This Vignette uses a case history to illustrate a concise overview of the Care Management Institute’s Guidelines for the Secondary Prevention of Coronary Artery Disease. Appropriate medical and lifestyle interventions are reviewed and all common clinical variations are discussed.

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How Can I Counsel Adults and Children About Weight Management and Physical Activity?
Margaret McDonough Becker, MPH; Veenu Aulakh, MPH, Sandra Roberts, RN

By counseling patients on weight management and related lifestyle factors, physicians can play an important role in patients’ health. This article offers guidelines for effectively discussing this emotionally difficult topic.
DEALING WITH THE ANGRY PATIENT

Edward C Wang, MD

THE IMPORTANCE OF KEEPING COOL WITH ANGRY PATIENTS

Scott Abramson, MD

Anger is one of the most challenging emotions confronting a clinician, because of the often-irrational aspect of anger and the individual clinician’s reaction to anger. This article offers a brief personal recollection of an interaction involving anger and a “Quick Guide” to dealing with the angry patient.

EACH WEEK ON THE PERMANENTE JOURNAL, WE PROFESSIONALS WITH EXPERIENCE IN HEALTH CARE DELIVER THE BEST CURRENT INFORMATION AVAILABLE TO HELP PROVIDE OUR PATIENTS WITH THE BEST HEALTH CARE POSSIBLE.

HEALTH SYSTEMS

CPC Corner: Dealing With The Angry Patient
Edward C Wang, MD

The Importance of Keeping Cool with Angry Patients
Scott Abramson, MD

Anger is one of the most challenging emotions confronting a clinician, because of the often-irrational aspect of anger and the individual clinician’s reaction to anger. This article offers a brief personal recollection of an interaction involving anger and a “Quick Guide” to dealing with the angry patient.

EXTERNAL AFFAIRS

Everyday Heroes Make a Difference in California
Janet Howard

A Northern and Southern California program that applauds exceptional physicians and staff members is profiled in this overview of the program along with some of the honored “Everyday Heroes.”

SOUL OF THE HEALER

“Hillside”
Wuhao (Taki) Tu, MD

“Christmas Face”
David Bovill, MD

“Farmhouse”
Wuhao (Taki) Tu, MD

Write Around Portland

The Northwest Severe Weight Management Program joined with the non-profit organization Write Around Portland to place a pen in the hand of patients preparing for bariatric surgery. Exploring their feelings, patients wrote the poems and stories collected here. A general surgeon in the Severe Weight Management Program and the coordinator for Write Around Portland discuss their programs, this experience, and the outcomes.

WHAT DO WE GAIN? WHAT DO WE loose?

David Moiel, MD

SOMETIMES THE FIRST STEP IS ALL YOU NEED

Liza Halley, MA
Dear Editor,

In regard to the picture taken by Dr Ahmad Abdalla in *The Permanente Journal*, Vol 6, No. 4, Fall 2002, p 38, “A Gathering of Crabs,” this picture is an insult to the many people who respect life of any form on this earth.

People who care for animals and the environment would like to see animals in their natural habitat and not in a fish market pending trauma by human beings, by boiling them to death and then eat them for enjoyment.

I do not see any healing for the soul and any soul in a healer who perceives a pile of once-living animals hunted away from their natural habitat by humans to be sold for a profit as an “attractive” scene.

Yes, there is mesmerizing beauty in beings and “gathering” of beings in the nature but there is no beauty in any gathering to be killed soon.

Sincerely,

Zarin Azar, MD
Gastroenterology, Kaiser Permanente, Bellflower, CA

Response:

Thank you for bringing your viewpoint to our attention. It is far from our intention to insult anyone. The connection between ourselves and the world around us, our environment, is often easily overlooked. We will consider diversity of opinion in future issue decisions.

Editor

The Permanente Journal,

Thank you for a very stimulating article “Can Some Clinicians Read Their Patients’ Minds? Or Do They Just Really Like People? A Communication and Relationship Study,” Vol 6, No. 3, Summer 2002. Are you aware of a thoughtful essay on intuition by a young Eric Berne? It may have been his first published work. I appreciated your reinforcement of the fact that effective treatment hinges on a positive treatment relationship. One of my concerns in a mental health program, where treatment is usually extended over more than one visit, is the effect of the interval between sessions on the quality of the relationship—ie, can it be sustained by either the provider or the client when the interval gets to be four- or five-weeks long? I don’t find many studies of this factor, except in connection with the issue of managing antidepressant medication. Any references you are aware of would be most appreciated.

Bertram R Barth, LCSW
Mental Health, Santa Rosa Medical Center, CA

Response:

Thank you for your letter to *The Permanente Journal*. I was unaware of the Eric Berne essay1 and your mention piqued my interest, thus sending me on a search to find it. It is interesting that he made comments 45 years ago about the importance of alertness and receptivity that are not unlike our findings of the importance of attention and presence.

I agree that the interval between mental health visits is very important, although I don’t know of any recent research in that area—it is out of my field. Since you are in Northern California, you may want to contact Dr Robin Dea, Chief of Psychiatry to see if she has any information or resources.

I appreciate your interest in our article. We are glad you read the journal and found something of value.

Editor

Reference

Abstracts of Articles Authored or Coauthored by Permanente Clinicians

From the Northwest:
Computized health information and the demand for medical care

Objective: Consumer health information, once the domain of books and booklets, has become increasingly digitized and available on the Internet. This study assessed the effect of using computerized health information on consumers’ demand for medical care.

Methods: The dependent variable was self-reported number of visits to the doctor in the past year. This study used overall self-reported utilizations as the dependent variable, and more research is needed to determine whether health information affects the health production function in other important ways, such as the location of care, the timing of getting care, or the intensity of treatment.

RESULTS: The seven-valent conjugate pneumococcal conjugate vaccine: evidence from Northern California

Pneumococcal disease remains a significant cause of morbidity among young children. A large-scale efficacy trial in the Northern California Kaiser Permanente system (the KP trial) demonstrated that a seven-valent conjugate vaccine (PCV) is safe and immunogenic in young children and effective in preventing both invasive pneumococcal disease caused by vaccine serotypes (97.4% efficacy) and episodes of otitis media (7.0% efficacy). Since the publication of the results of the KP trial in 2000, we have performed an additional analysis on the safety, immunogenicity, and efficacy of the vaccine in low birth weight (LBW) and preterm (PT) infants, and have examined the efficacy of the vaccine during one year of wide-scale post-licensure use. The vaccine was at least as immunogenic in LBW and PT infants as in normal-weight, full-term infants and was 100% effective, although the LBW and PT infants had higher rates of adverse events such as redness and swelling. LBW and PT infants receiving pneumococcal vaccine also had higher rates of adverse events, such as hives, than those receiving control meningococcal vaccine, but these reactions were not severe. When the PCV was used in the general population, the efficacy remained high and there was no corresponding increase in disease caused by nonvaccine serotypes. There was also evidence that vaccine administration led to herd immunity. Febrile illness was the only adverse event seen more frequently after vaccine administration than during a control period.

CONCLUSION: The seven-valent conjugate pneumococcal vaccine is safe and effective for use in the general population.
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From Northern California:
Acute diverticulitis in the young adult is not “virulent”

Acute diverticulitis historically has been considered rare before the age of 40 but “virulent” when it does occur and frequently requiring emergency operation. Recent experience suggests that the demographics and management of this disease are changing. Outcomes at Kaiser Permanente Los Angeles Medical Center were reviewed. Between January 1997 and July 2001, 261 patients were discharged with the diagnosis of acute diverticulitis; 46 or 18% of these were aged ≤ 40. Patients’ mean age was 35, 76% were men, 65% were Latino, and 72% were obese (body mass index ≥ 30 kg/m2). An operation at initial presentation was performed on 35% (16/46) patients. Only 19% of these (3/16) had a correct preoperative diagnosis. The 30 patients who were treated nonoperatively all were managed successfully, one required a percutaneous drain. Given the apparent increasing frequency of acute diverticulitis in young adults and the high success rate of initial
nonoperative management, surgeons should consider this diagnosis in selected patients who present with abdominal symptoms. Knowledge of typical clinical features and judicious use of computed tomography may decrease the number of unnecessary emergency operations in young adults with acute diverticulitis. Our data do not support a “virulent” label for this disease in the young.

From Southern California:

**Fate of the anterior cruciate ligament-injured knee**

Most patients with anterior cruciate ligament (ACL) injuries do well with activities of daily living even after follow-up in the range of five to 15 years. Most can participate in some sports activity if they are inclined to do so, but most will have some limitations in vigorous sports, and only a few will be entirely asymptomatic. The challenge to the clinician is to understand and predict how ACL deficiency in a given patient will affect that patients’ life and activities. In counseling patients about treatment after an ACL injury, the clinician can use knee ligament arthrometry measurements and pre-injury sports activity to estimate the risk of injury over the next five to ten years. Meniscus, chondral, and sub-chondral injuries are not uncommon, but rarely require surgical intervention in the early phase of ACL deficiency. The prevalence of clinically significant meniscal damage increases with time, and is associated with increasing disability, surgery, and arthroscopy in high-risk patients. Ligament reconstruction has not been shown to prevent arthroscopy, but in prospective studies it appears to reduce the risk of subsequent meniscal injury, improve passive anteroposterior knee motion limits, and facilitate return to high-level sporting activities.


**Clinical Implication:** ACL injury results in knee instability that can lead to recurrent injury, surgery, and potentially, arthritis. It is important for first-line care providers to consider the possibility of ACL injury when a patient presents with a knee injury. Pathologic anterior knee laxity can be documented with a careful examination by an experienced knee specialist. In counseling patients about treatment after an ACL injury, the clinician can use knee ligament arthrometry measurements and pre-injury sports activity to estimate the risk of injury over the next five to ten years. –DF

From the Northwest:

**Understanding changes in primary care clinicians’ satisfaction from depression care activities during adoption of selective serotonin reuptake inhibitors**

**OBJECTIVES:** To describe how primary care clinicians’ perceptions about depression care as a clinical activity changed during the adoption of selective serotonin reuptake inhibitors (SSRIs) in their health maintenance organization (HMO).

**STUDY DESIGN:** Prospective study of change in primary care clinicians’ level of satisfaction from depression care activities from Time 1 (mid-1993) to Time 2 (early 1995).

**METHODS:** Study subjects were internal medicine and family practice physicians, physician assistants, and nurse practitioners (n = 196) in a large, not-for-profit group-model HMO. We modeled level of satisfaction from depression care activities at Time 2 as a function of changes in depression-care-related attitudes and perceptions over the study period, controlling for Time 1 level of satisfaction and personal and professional characteristics.

**RESULTS:** Overall satisfaction showed a small, statistically significant improvement over the study period. Time 2 satisfaction was a function of improved perceptions about the feasibility of primary care treatment of depression, which in turn were related to improved perceptions about the effectiveness of drug treatment. The relevance of clinicians’ perceptions about their own depression care skills declined concomitantly.

**CONCLUSIONS:** The adoption of SSRIs in the HMO was associated with improvement in primary care clinicians’ perceptions about their ability to successfully treat depression (especially using pharmacology) and in their overall satisfaction from depression care activities. Future research should address whether reliance on SSRIs replaces the use of other depression treatment modalities, and if so, how this reliance affects patient outcomes and satisfaction and overall health care costs.

From Ohio:

**The impact of a health education program targeting patients with high visit rates in a managed care organization**

**PURPOSE:** To determine if a mailed health promotion program reduced outpatient visits while improving health status.

**DESIGN:** Randomized controlled trial.

**SETTING:** A midsized, group practice model, managed care organization in Ohio.

**SUBJECTS:** Members invited (n = 3214) were high utilizers, 18 to 64 years old, with hypertension, diabetes, or arthritis (or all). A total of 886 members agreed to participate, and 593 members returned the initial questionnaires. The 593 members were randomized to the following groups: 99 into arthritis treatment and 100 into arthritis control, 94 into blood pressure treatment and 92 into blood pressure control, and 104 into diabetes treatment and 104 into diabetes control.

**MEASURES:** Outpatient utilization, health status, and self-efficacy were followed over 30 months.

**INTERVENTIONS:** Health risk appraisal questionnaires were mailed to treatment and control groups before randomization and at one year. The treatment group received three additional condition-specific (arthritis, diabetes, or hypertension) questionnaires and a health information handbook. The treatment group also received written health education materials and an individualized feedback letter after each returned questionnaire. The control group received condition-specific written health education materials and reimbursement for exercise equipment or fitness club mem-
Abstracts of Articles Authored or Coauthored by Permanente Clinicians

From Northern California/Northwest: Bone loss predicts subsequent cognitive decline in older women: the study of osteoporotic fractures


OBJECTIVES: To determine whether the rate of bone loss predicts subsequent cognitive decline independently of baseline bone mass and whether apolipoprotein E (ApoE) genotype explains the association.

RESULTS: Changes in visit rates were disease specific. Parameter estimates were calculated from a Poisson regression model. For intervention vs controls, the arthritis group decreased visits 4.84 per 30 months (p < 0.00), the diabetes group had no significant change, and the hypertension group increased visits 2.89 per 30 months (p < 0.05), the overall health status improved significantly (-6.5 vs 2.3, p < 0.01) for the arthritis group but showed no significant change for the other two groups, and coronary artery disease and cancer risk scores did not change significantly for any group individually. Overall self-efficacy for intervention group completers improved by -8.6 points (p < 0.03) for the arthritis group, and the other groups showed no significant change.

CONCLUSIONS: This study demonstrated that in a population of 18 to 64 years with chronic conditions, mailed health promotion programs might only benefit people with certain conditions.

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From Northern California:

Prevalence of and reasons for preoperative tobacco use


Smoking cigarettes has an impact on all aspects of the perioperative anesthetic. It is not known whether patients are typically educated regarding these effects. Eighty-one patients completed a questionnaire concerning smoking behavior in the 24 hours before surgery. Variables measured were smoking history, tobacco addiction, and preoperative education. Chi-square analysis was used. Of 81 participants, 66 (81%) smoked tobacco within 24 hours of surgery. Thirty-seven patients received no instructions to stop smoking, and only two patients abstained on their own. Of the 44 patients counseled not to smoke, 12 abstained from smoking before operation. Thus, with counseling, the cessation rate was approximately five times greater (chi 2 = 7.0, p = .008). A second correlation was seen when the patients were informed about tobacco’s risks related to anesthesia. The smoking rate decreased from 15% to 4%, a four-fold decrease (chi 2 = 15.3, p = .0001). The results indicate patients who smoke are not routinely informed of the risks of tobacco use or the benefits of abstinence before surgery. Counseling has a positive impact on the patient’s smoking behavior in the 24 hours preceding surgery. Anesthesia providers and surgeons have a renewed obligation to instruct patients not to smoke before surgery.

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The James A Vohs Award for Quality—
The Fifth Annual *Permanente Journal* Special Issue

We all know that change for its own sake is seldom wise. The medical pioneers who founded the Kaiser Permanente (KP) organization effected a revolutionary change in the established system of delivery of medical care. Their success and the fact that the KP system continues to thrive is a tribute to the value of incessant examination of our methods. This philosophy has always been clear to our leaders and to most health practitioners in the KP organization. Improvements serve both to increase the quality of care to our patients and to ensure survival of our organization in the competitive health care marketplace.

James A Vohs, MD, President, CEO, and Chairman of the Boards of Kaiser Foundation Health Plan, Inc, and Kaiser Foundation Hospitals, was a creative champion of innovation and improvement in Permanente Medicine. Upon his retirement, the James A Vohs Award for Quality was established to recognize and honor projects that advance the quality of care, showcase innovative techniques, produce transferable knowledge, and underscore the value of multidisciplinary teamwork. Annually, each KP Division is invited to nominate one or two projects. The award is presented for the project best representing an established effort to improve quality through objectively documented and institutionalized changes in direct patient care. The selection criteria include demonstration of measurable improvement in care and potential for transfer to other locations as a “successful practice.” Thus, the benefits ultimately extend to large numbers of KP members nationally, to the general community, and to the entire health care industry.

We present in this issue the 2003 Vohs award winners. The KP Single-Region award was given to “The Palliative Care Program—Southern California.” This interdisciplinary, home-based program offers care for patients with an estimated 12-month prognosis for survival; the three most common diagnoses being cancer, heart failure, and lung disease. The program demonstrated effectiveness in improving symptom management, offering psychosocial support, and reducing costs. The KP Multiple-Region winner was “Improving Appropriate Prescription Drug Use to Best Practice—Northern and Southern California.” Targeting antibiotics, allergy drugs, and arthritis medications, the program established committees to monitor their use and to engage in instructional educational approaches to encourage appropriate prescribing.

Publication of the Vohs winners fits the mission of *The Permanente Journal* “to promote the delivery of superior health care through the principles and benefits of Permanente Medicine.” With this issue, we have published 15 Vohs projects over a five-year period. They represent eight different KP Regions and most major medical specialties, including: 1) preventive practices (pediatric practice, immunizations, breast cancer), 2) management of chronic illness (asthma, diabetes, heart disease, cancer, COPD, sickle cell disease), 3) computerization of medical data, and 4) drug utilization. A number of Vohs projects have already rapidly spread to use by other regions.

The process for nomination has some local variation and each KP Division has contact liaisons easily located through its regional quality representative. Nominations need approval by the KP Division President and by the Medical Director. Applications are due September 1st each year. There is no monetary gift with the James A Vohs Quality Improvement Award. Winners and runners-up present their projects at a reception hosted by the KP Boards of Directors, Division Presidents, and other Program Officers. The awardees also receive publicity through the Quality Notes newsletter and through local, state, and national press releases.

A Vohs Award Selection Committee includes Board of Directors members, a Vohs family member, Chairman Bob Crane, Program Office quality representatives, a Permanente Federation representative, and two nonvoting Program Office quality representatives. This Committee announces its selection at the December Board of Directors meeting, and team members are contacted by phone within the next day or two. The recognition ceremony takes place at the March Board of Directors’ meeting.

The possibilities for projects are limited only by the imaginations of our health professionals. Part of our purpose in publishing these projects is the hope that they will encourage others to present projects for consideration.

“There is nothing permanent, except change.”
—Heraclitus, c 540-480 BC, Greek philosopher

“Change is not made without inconvenience, even from worse to better.”
—Richard Hooker, 1554-1600, British theologian
The Palliative Care Program


Background: Recognizing the Need for Palliative Care

The need to improve health care for Americans as they approach the end of their lives has gained increased attention during the past decade. The imminent influx of “baby boomers” into our elderly population has created an additional burden on our health care system: the need to develop new models for providing cost-effective, patient-centered palliative care at the end of life. Persons older than 65 years—a group that currently represents 12.6% of the US population—will nearly double by 2030 to account for 20.2% of the US population.1 Each year, fewer than 5% of Medicare recipients die. Yet the cost of services in the last year of life for this small segment of enrollees represents 25% of total annual Medicare costs.2 The mean Medicare cost of health care in the last year of life is approximately $26,000—about six times the per capita health care cost for Medicare survivors.2

Unfortunately, current constraints imposed by Medicare regulations serve as enormous barriers to developing models of palliative care for terminally and chronically ill patients. These barriers and numerous barriers to providing hospice services (eg, patients refusing hospice services, physician uncertainty in determining life expectancy, patient unwillingness to forego curative care, negative connotations of hospice care) result in patients dying either in acute care units or in intensive care units, sometimes after receiving medically futile care. In 1996, in the Kaiser Permanente (KP) Southern California TriCentral Service Area (KP TriCentral), 63% of patients who died in the intensive care unit and 54% of those who died in the medical/surgical unit had a primary or secondary diagnosis of one of three commonly fatal, incurable conditions: cancer, congestive heart failure (CHF), or chronic obstructive pulmonary disease (COPD).

The KP TriCentral leadership subsequently recognized the need to design a program that changed the focus from inpatient to home-based care for patients nearing the end of life. In contrast to traditional models of care—which emphasize curative treatment until death and offer little, if any, palliative care—the program would integrate palliative care into curative care earlier in the patient’s disease process. Seriously ill patients needed services to enable them to better manage their own care at home and thus reduce their need for inpatient and emergency services. With this improved model of end-of-life care, we hypothesized that palliative care patients would be more satisfied with their health care and would use fewer medical services than would their counterparts receiving traditional end-of-life medical care.

Developing a Palliative Care Program

The KP TriCentral Palliative Care (TCPC) Program began as a pilot study in 1997, and began receiving annual funding in 1998. The TCPC Program is an interdisciplinary, home-based program for patients at the end of life. The program offers these patients enhanced pain control, symptom management, and psychosocial support to improve quality of life and care while reducing the overall cost of care. By blending palliative care and curative measures, the TCPC Program provides gradual transition for patients with a 12-month survival prognosis and thus allows them to retain their primary care physician while receiving home visits from the palliative care team and physician.

Abundantly patient-centered, the TCPC Program’s mission—consistent... current constraints imposed by Medicare regulations serve as enormous barriers to developing models of palliative care for terminally and chronically ill patients.

Table 1. KP Southern California TriCentral Service Area Hospice and Palliative Care Program team members

| Contact persons: | Richard D Brumley, MD, Medical Director, Hospice and Home Health Susan Enguidanos, MPH, Research Analyst, Partners In Care & TriCentral Service Area Continuing Care Department Kristine Hillary, RN, MSN, Department Administrator, Hospice and Home Health |
| Team members: | Janet Allen, MSN, RN, Assistant Department Administrator, Hospice Willy Arban, RN, Triage Supervisor, Hospice and Palliative Care David Cherin, PhD, Senior Research Consultant, Partners In Care Tim Clark, RN, Palliative Care Susan Mattera, RN, MN, Assistant Department Administrator, Quality Management Karen Oman, LCSW, Palliative Care Luella Robison, RN, Clinical Nurse Supervisor, Palliative Care June Simmons, LCSW, CEO, Partners In Care Jill Volkman, RN, Intake Nurse, Palliative Care Sandee Washington, RN, Clinical Nurse Supervisor, Palliative Care Gretel Whisnant, RN, Clinical Nurse Supervisor, Palliative Care |
with that of the KP Southern California Region—is to achieve the best possible quality of life for patients by relieving suffering, controlling symptoms, and restoring functional capacity while remaining sensitive to patients’ personal, cultural, and religious values, beliefs, and practices. The program’s interdisciplinary health care team (Table 1) encourages and empowers patients to actively participate and collaborate in designing, evaluating, and revising the patient’s plan of care.

Structure and Implementation of the TCPC Program

Focusing on patients at the end of their lives, the TCPC program is designed to serve the approximately 2300 TriCentral members each year who die from a chronic medical condition. Specific criteria for admission into the TCPC Program generally include homebound status, a diagnosis of life-threatening disease (primarily cancer, CHF, or COPD), and a prognosis of not more than approximately one year to live. Referrals originate from many sources, including physicians, discharge planners, home health nurses, and social workers. Although modeled after KP’s hospice program (which operates within Medicare guidelines), the TCPC Program features three important modifications to overcome current barriers to palliative care:

- Because estimating life expectancy is often difficult, referral guidelines are more relaxed for the TCPC Program than for hospice admission (which requires a prognosis of less than six months); patients are accepted into the TCPC Program if they have a prognosis of less than a year to live. Physicians are asked to refer any patient to the TCPC Program if the physician “would not be surprised if this patient died in the next year.”
- Although the TCPC Program emphasizes improved pain control and symptom management, patients participating in the program need not forego curative care as they do in hospice programs.
- Patients participating in the program are assigned a palliative care physician, who coordinates care from a variety of health care practitioners (including the patients’ primary care physician), thus preventing the service fragmentation that often occurs in health care systems. In addition to these design improvements, the program features five core components, each of which contributes to enhanced quality of care and patient quality of life:
  - An interdisciplinary team approach that focuses on the patient and family and in which care is provided by a core team consisting of a physician, nurse, and social worker with expertise in pain control, other symptom management, and psychosocial intervention.
  - Home visits by all team members (including physicians) to provide medical care, support, and education as needed by patients and their caregivers.
  - Ongoing care management to fill gaps in care and to ensure that the patient’s medical, social, and spiritual needs are being met.
  - Telephone support via a toll-free number as well as after-hours home visits available 24 hours per day, seven days per week, as needed by the patient.
  - Advanced care planning that empowers patients and their families to make informed decisions and choices about end-of-life care.

Ongoing Program Quality Measures

A patient survey was administered to all patients participating in the TCPC Program to assess their satisfaction with the care they receive. The program’s performance goal is for satisfaction levels among participating patients to be as high or higher than among other patients receiving home health care. Since inception of the TCPC Program, patients completing satisfaction surveys have consistently rated the program highly (4.5 to 4.7 on a scale of 1 to 5, where 5 = most satisfied). All visiting team members assessed pain level during each contact with the patient and ensured that the mean pain rating remained at 3 or lower on a scale of 0 to 10, where 0 was lowest pain rating. This goal has been consistently met for 96% of patients participating in the TCPC Program.

The TCPC Program has continued to monitor service use for all patients. By analyzing utilization review reports, staff members routinely count 911 calls and unplanned inpatient admissions, try to explain these calls and admissions, and determine what, if anything, could have been done to prevent them. The program’s performance benchmark is to reduce the total number of 911 calls and unplanned admissions to fewer than three per month per 100 patients enrolled in the TCPC Program. The TCPC team has reduced the number of these calls and unplanned admissions to a mean of two to four per month per 100 patients enrolled in the program.

TCPC Program Evaluation Methods

The TCPC Program was evaluated
The Palliative Care Program

Kaiser Permanente Southern California created a breakthrough service model. The rigorous research investigation of a quality assurance measure and evaluation was conducted as both cost effectiveness of such care. This evaluation was conducted as both a quality assurance measure and as a rigorous research investigation of a breakthrough service model. The Kaiser Permanente Southern California Human Subject Protection Committee approved the study.

**Study Design and Participants**

A nonequivalent comparison group design was used in which the intervention group was compared with a group receiving usual care services. The intervention group consisted of patients enrolled in the TCPC Program; the comparison group consisted of KP home health patients who, like the intervention group, had a diagnosis of COPD, CHF, or cancer; two or more emergency department visits or hospital admissions in the past year; and limited life expectancy.

A total of 558 participants were enrolled in the study: 210 patients in the intervention group and 348 in the comparison group. The 73 eligible patients who declined to be interviewed were statistically equivalent in diagnosis, gender, age, ethnicity, and study group eligibility (ie, for intervention or comparison group) to study participants.

To ensure that the intervention and comparison groups were comparable, data analyses were conducted among a subgroup of patients: the 298 participants who died during the two years of the study (159 in the TCPC Program, 139 in the comparison group). By selecting participants who met this selection criterion, we could compare similar groups of patients at the end of life. The place of death was also recorded for each participant.

**Data Collection**

All data were collected between March 1999 and August 2000. Participants were interviewed by telephone seven days after enrollment in either the TCPC Program or the comparison group and every 60 days thereafter. These interviews were conducted by undergraduate and graduate-level research assistants who were blinded to group assignment. Data collected from the interviews included demographic data as well as patients' rating of their illness severity, quality of life, and satisfaction with services. The Reid-Gundlach Satisfaction with Services instrument was used to measure patient satisfaction with services. The patient satisfaction survey yielded overall ratings for three categories: satisfaction with services, perception of service providers, and likelihood of recommending services to others in the future.

Service utilization data were collected from KP administrative databases. These data included number of emergency department visits, physician office visits, hospital days, skilled nursing facility days, home health and palliative visits, and hospice visits.

The cost effectiveness of the TCPC model was evaluated using staff costs only.

**Data Analysis**

Analyses were conducted using the SPSS 10.1 statistical software package (SPSS Inc, Chicago, Illinois). Statistically significant differences in number of days of service and illness severity were controlled as covariates when service use data were analyzed. Multivariate analysis of covariance (MANCOVA) also controlled for Type I error associated with multiple tests. Post hoc Student t-tests were conducted on each dependent variable to determine group differences for each variable. Multiple regression was conducted to determine the portion of costs explained by study group, controlling for days of service, severity of illness, and diagnosis of CHF. Review of the data from the linear regression analysis showed violation of the linearity assumption; therefore, semilog transformation was conducted on the dependent variable (costs) using the LIMDEP 7.0 data analysis software package (Econometric Software, Inc, Plainview, New York). Alpha (threshold of statistical significance) was set at .05.

**Results of TCPC Program Evaluation**

**High Patient Satisfaction**

No statistically significant differ-
An unexpected benefit of the study was heightened consciousness—and acquisition—of improved end-of-life skills by physicians and other health care professionals ...

ence in mean satisfaction scores was seen between intervention and comparison groups at baseline, although satisfaction at baseline was high for both groups (intervention group mean score = 41, comparison group mean score = 40). However, at 60 days after enrollment, the satisfaction score for the intervention group increased significantly from baseline (p = .01), whereas scores for the comparison group remained unchanged (Figure 1).

Our data analysis of patients who died during the study enabled us to compare place of death for intervention and comparison groups (Figure 2); significantly more patients in the intervention group died at home (87%) than in the comparison group (57%) (p < .001).

Effective Cost Management

The intervention group had fewer emergency department visits, inpatient days, skilled nursing days, and physician office visits than did the comparison group, although the intervention group had more home care visits than did the comparison group (Figures 3a,b).

For the TCPC group, per-patient cost reduction was seen across diagnoses (range $3514 to $8293) but was significant for patients who had cancer (p = .001) or COPD (p = .02) (Figure 4). Per-patient costs for the intervention group averaged $6580 less than for the comparison group, a significant reduction of 45% (p < .001). Because our cost-effectiveness calculation did not include fixed costs (such as building maintenance), which are higher for acute care services compared with home-based services, the cost reduction results are extremely conservative.

Discussion

The results of this study indicate that enrollment in the TCPC palliative care model produced lower costs of care as well as higher patient satisfaction than did enrollment in usual health care services. These findings remained highly significant even after the data were controlled for days of service, severity of illness, and having a CHF diagnosis.

The primary innovations of the TCPC Program were development and implementation of a new model of health care in which services are provided to chronically and seriously ill Health Plan members over an extended period of time. Instead of patients experiencing an abrupt transition from curative care to palliative care—a situation that exists under Medicare guidelines in most care settings—the TCPC Program ensures continuity between traditional medical care and hospice care through gradual transition from a curative focus to increasing palliative measures. In addition, the KP fiscal structure—currently limited by traditional Medicare financing—was reorganized to support development of an outpatient palliative care model.

Because cost savings were realized in an inpatient setting, financial support was transferred from inpatient budgets to support the TCPC home-based program. These organizational and fiscal difficulties are encountered by most Health care systems; therefore, few similarly comprehensive models of care anywhere in the United States can compare with the KP model.

This study offers tremendous implications for health care. As noted in this study, the palliative care model reduced by 45% the cost of services received by patients at the end of life. Given the high cost of health care in the last year of life, this cost reduction represents tremendous savings.

In addition to being costly, acute care at the end of life is not always preferred by patients who are near death. The SUPPORT Investigators found that although most patients studied desired to die at home, about 60% of deaths occurred in the hospital, and 18% occurred in nursing homes or hospice. In addition, many patients who receive acute care treatment at the end of life receive aggressive and futile forms of treatment. Thus, the palliative care program provides an ethical alternative to traditional end-of-life care by allowing patients an opportunity both to die without pain and to remain in the comfort of their own home. The lower use of emergency care, hospital, skilled nursing facility, and physician office visits among members of the intervention group compared with the comparison group enabled us to compare place of death for intervention and comparison groups (Figure 2); significantly more patients in the intervention group died at home (87%) than in the comparison group (57%) (p < .001).
group illustrates the TCPC Program’s ability to effectively transfer end-of-life care from a high-cost, acute care setting to a lower-cost, home-based setting that allows patients to die in the comfort of their own home. The substantially higher satisfaction reported by patients in the intervention group at baseline and at each follow-up—as long as 60 days after study enrollment—supports a recommendation that care be transferred from a hospital setting to the home environment.

The study provided the conclusive evidence needed to increase the standard of care to seriously ill KP members by integrating the TCPC model into usual care within the KP Southern California TriCentral Service Area. An unexpected benefit of the study was heightened consciousness—and acquisition—of improved end-of-life skills by physicians and other health care professionals who do not directly provide palliative care services. In addition, the TCPC team members learned not only to work together as a group but also to develop the skills necessary to plan, implement, test, and improve the quality of end-of-life care. Team members continue to use these skills as they seek further avenues for enhancing the quality of care.

Our evaluation was limited by its research design; to further test this model and to strengthen the validity of the findings, randomized controlled studies are needed. In addition, the potential for generalizing this model to other sites and populations is limited because the study was conducted within a closed-system managed care organization and because the sample was drawn from the Southern California area only. Multisite studies are needed to test the ability to generalize this model to other organizational systems, populations, and communities.

**Future of Palliative Care**

Interest in replicating this model has been expressed nationally. In June 2001, the KP Northwest Region implemented the TCPC model. Preliminary analysis has shown results consistent with the findings for the KP Southern California TriCentral Service Area (Andy Kyler, Louise H Clark, MD, personal communication, June, 2002).

In January 2002, the TCPC Program was awarded two-year funding from the Garfield Memorial Fund to test replicability of the TCPC Program at two other KP sites. Currently, the TCPC staff is working with health care teams at KP sites in Colorado and Hawaii to initiate the TCPC Program and to both refine and adapt it as needed for successful implementation at each site.

In April 2001, the Project on Death in America (conducted by the Open Society Institute, New York) named Dr Brumley and Ms Hillary to its Faculty Scholars Program. This program provides national recognition to outstanding faculty and clinicians who are working to improve end-of-life care. Dr Brumley and Ms Hillary have developed a comprehensive “toolkit” that includes all the support materials needed to implement the TCPC Program. To benefit the largest professional audience possible, the toolkit is available on the Web for general public access at: www.growthhouse.org/palliative.

Dr Brumley led development of the TCPC Program and continues to serve as its director. Throughout, he has been assisted by Ms Hillary, who serves as nurse manager for the TCPC Program. The KP Southern California TriCentral Service Area leadership team has provided administrative and financial assistance to ensure ongoing operation and expansion of the TCPC Program. The TCPC team has been assisted throughout by the Partners In Care Foundation, an external nonprofit agency providing research.
The TCPC model has been shared with more than 200 health care teams and agencies throughout the United States.

improving end-of-life care. The TCPC model has been shared with more than 200 health care teams and agencies throughout the United States. In addition, two articles have been published in professional journals, and another is in press.

Dr. Brumley has testified in Washington, DC, before a congressional subcommittee examining end-of-life health care issues. The purpose of this invitational forum was to assemble key policymakers, government officials, and leaders in health care to discuss the national implications of recent demonstration projects in end-of-life care and to determine next steps toward improving access to services and quality of care for dying Americans and their families.


Acknowledgments
The program was funded by the Garfield Memorial Fund. Funding for support material was provided by the Project on Death in America, Open Society Institute, New York. David Cherin, PhD, provided the research design, overview of the study, and assistance with data analysis.

References
Vohs Award Winner: Multiple-Region Category

Improving Appropriate Prescription Drug Use to Best Practice: Supporting Evidence-Based Drug Use

By Joel D Hyatt, MD
Timothy J Batchelder, MD
Richard Wagner, PharmD

Introduction: The Need for Best Practice Prescription Drug Use

The rapid rise in prescription drug cost is the fastest-growing driver of overall medical cost inflation. Pharmaceutical cost is anticipated to surpass hospital cost soon if left unchecked. Rising medical cost presents a challenge to the Kaiser Permanente (KP) dues rate position with its purchasers, who demand price restraint without compromising quality or access to care. The pharmaceutical industry continues to introduce new, usually higher-cost drugs with aggressive marketing campaigns to providers and through direct-to-consumer advertising—activities which have increased demand for these newer and not always better drugs. These efforts have resulted in increased prescription drug use and drug costs.

Other health plans use restrictive formularies, prescription preauthorization, and risk-sharing contracts to influence providers to reduce cost. The Permanente Medical Groups (PMG) support the practice of evidence-based medicine and have applied such evidence to develop clinical practice guidelines that are used by Permanente physicians and providers. Rather than drawing conclusions from intuition, clinical experience, and anecdotal cases of disease, evidence-based medicine applies results of clinical research to medical decision making.

Leaders and clinicians at KP therefore decided to establish a new drug use management program that would focus on continuous improvement in clinical outcomes while managing best practice drug utilization. These leaders agreed that the best approach would primarily focus on clinical evidence rather than cost reduction.

Project to Improve Appropriate Prescription Drug Use to Best Practice

The purpose of this project was to improve quality of care for KP members by increasing appropriate prescribing and reducing inappropriate drug use to enable application of those resources for other care of greater patient benefit. The goals were to apply the principles of Permanente Medicine to improve clinical outcomes, provide the most appropriate care for members, and improve cost effectiveness.

Regional KP leadership commissioned the project in Summer 1999 as a collaborative effort between the two PMGs in California (SCPMG and TPMG) and Pharmacy Operations. The project was designed to build upon

Table 1. KPSC Drug Utilization Action Team (DUAT) members

<table>
<thead>
<tr>
<th>Cochair and contact persons:</th>
<th>Joel D Hyatt, MD; Assistant Associate Medical Director Richard Wagner, PharmD; Drug Use Management Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team members:</td>
<td>Binesh Batra, MD; Gastroenterology Committee John Bigley, MD; Chief of Internal Medicine David Chandler, MD; Chief of Psychiatry Ed Curry, MD; Chief of Pediatrics Dale Daniel, MD; Regional P&amp;T (Pharmacy and Therapeutics) Chair Tracy Fietz, RNP; Medical Group Administrator, West LA Matt Gerlach, Service Area Manager; Valleys Service Area Ken Gould, MD; Internal Medicine-Infectious Disease Committee Representative Margaret Kurohara, MD; Chief of Allergy Denis Matsuoka, PharmD; Drug Use Manager Paul Minardi, MD; Chief of Family Practice Mitch Pelter, PharmD; Clinical Operations Manager Rod St John, MBA; Project Manager Kumar Venkat, MD; Rheumatology Committee Rod Zolt, PharmD; Pharmacy Leader</td>
</tr>
</tbody>
</table>

Table 2. KPNC Drug Utilization Group (DRUG) members

<table>
<thead>
<tr>
<th>Cochair and contact persons:</th>
<th>Timothy J Batchelder, MD; Physician-in-Chief, Richmond Richard Wagner, PharmD; Drug Use Management Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team members:</td>
<td>David Campen, MD; Medical Director, Drug Use Management Ambrose Carrejo, PharmD; Drug Use Manager Alvin Cheung, PharmD; Pharmacy Leader Patricia Conolly, MD; Regional Clinical Director, AACC William Elliott, MD; Formulary Committee Chair Carol Havens, MD; Director, Physician Education &amp; Development Fred Hon, MD; Regional Pharmacy and Therapeutics Committee Chair Jenny Hong, PharmD; Clinical Operations Manager Sharon Levine, MD; TPMG Associate Executive Director Rachelle Mirkin, MPH; Regional Health Education Stacey Olvera, PharmD; Drug Use Management Dot Snow, MPH; Project Manager, DRUG William Strull, MD; Assistant Physician-in-Chief, San Francisco Joann Zimmerman, RN; Service Area Manager, South Bay</td>
</tr>
</tbody>
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clinical contributions

Improving Appropriate Prescription Drug Use to Best Practice: Supporting Evidence-Based Drug Use

Table 3. Quality measures established to evaluate improvement toward best practice use of prescription drugs in Kaiser Permanente of California

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Quality measures</th>
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<tbody>
<tr>
<td>Antibiotic</td>
<td>• Percentage of patients seen for selected viral infections who received an antibiotic.</td>
</tr>
<tr>
<td></td>
<td>• Antibiotic utilization for selected viral infections on a per-patient basis.</td>
</tr>
<tr>
<td></td>
<td>• Macrolide prescription mix (frequency of quinolone use compared with frequency of erythromycin use).</td>
</tr>
<tr>
<td></td>
<td>• Frequency of amoxicillin-clavulanate (Augmentin) use compared with frequency of amoxicillin use.</td>
</tr>
<tr>
<td>Allergy drug</td>
<td>• Percentage of prescriptions for less-sedating antihistamines (LSA) for patients who have not received intranasal corticosteroids.</td>
</tr>
<tr>
<td></td>
<td>• Overall utilization of LSA.</td>
</tr>
<tr>
<td>Arthritis drug</td>
<td>• KPSC: Number of COX-2 inhibitor prescriptions per 1000 eligible members per month. Eligible members were those aged &lt;65 years and who were in NSAID GI risk level 1 or 2.</td>
</tr>
<tr>
<td></td>
<td>• KPNC: Number of eligible members receiving COX-2 inhibitors and not prescribed nabumetone (Relafen). Eligible members were those aged &lt;65 years and who were in risk levels 1 through 3.</td>
</tr>
<tr>
<td></td>
<td>• Total COX-2 inhibitor utilization in patients aged ≥65 years and &lt;65 years.</td>
</tr>
</tbody>
</table>

* Selected viral infection diagnoses were those associated with colds and flu, although the diagnostic codes varied by KP Region and by database.

Table 4. Cost measures established to evaluate improvement toward best practice use of prescription drugs in Kaiser Permanente of California

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Cost measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibiotic</td>
<td>• Change in overall cost of antibiotics during peak cold and flu season</td>
</tr>
<tr>
<td></td>
<td>• Macrolide prescription mix (quinolones vs erythromycin)</td>
</tr>
<tr>
<td></td>
<td>• Augmentin vs amoxicillin prescription mix</td>
</tr>
<tr>
<td></td>
<td>• Overall cost of antibiotics</td>
</tr>
<tr>
<td>Allergy drug</td>
<td>• Percentage market share of LSA compared with percentage market share of LSA + intranasal corticosteroids</td>
</tr>
<tr>
<td></td>
<td>• Overall utilization of LSAs</td>
</tr>
<tr>
<td></td>
<td>• Market share and overall costs</td>
</tr>
<tr>
<td>Arthritis drug</td>
<td>• Percentage market share of COX-2 inhibitors compared with all NSAIDs</td>
</tr>
</tbody>
</table>

our strength in physician leadership to assume responsibility for appropriate drug use. Pharmacy Operations agreed to provide systematic decision-making and practice support tools and infrastructure. The formation of the KP Southern California (KPSC) Regional Drug Utilization Action Team (DUAT) (Table 1) and the KP Northern California (KPNC) Regional Drug Utilization Group (DRUG) (Table 2) soon followed. By early 2000, every medical center in both California KP Regions had established local DUAT or DRUG committees. These structures and processes are now well established and integrated into the overall program.

The key objectives for DRUG and DUAT committees were:

• to implement regionwide and medical-center-based structures, processes, and support systems within SCPMG and TPMG that focused on appropriate use of medications;
• to improve patient quality of care by using an evidence-based approach to drug use management through physician involvement, education, decision-making and practice support tools, and performance feedback to physicians and providers;
• to decrease variation in prescribing patterns by promoting appropriate practices as determined by physician specialists; and
• to manage member resources cost-effectively.

Implementation Strategies

Current literature indicates that organizational structure, automated decision support systems, and tools for individual feedback are the most effective methods to implement change.5–7 The least effective methods are traditional continuing medical education, lectures, dissemination of guidelines or information, and general group feedback.8 This project designed several implementation strategies on the basis of the most effective methods.

Organizational Structure

Local DUAT and DRUG committees were formed at 30 medical centers throughout California (12 in KPSC, 18 in KPNC). They implemented regional initiatives, determined local priorities, and established local oversight and accountability processes. The committees included physician experts from each affected PMG specialty area; the physician chairperson from pharmacy and therapeutics committees; and pharmacy operations leaders.

Automated Decision Support Systems and Tools

• POINT-MIM (Permanente online interactive network tools—measures and initiative monitor). A customized Web-based database created to support this project provides local access to current drug utilization data at the provider and member level. The tool provides data to plan the education and feedback to physicians about the clinical appropriateness of prescribing various targeted drugs.
• PharmaFAX: This decision support tool is designed to provide physicians with up-to-date, patient-specific recommendations and prompts for the targeted drug initiatives. The tool provides this information at the time of appointment, via fax, to inform physicians about their patients’ prescribed medications. PharmaFAX currently includes recommendations regarding patient use of allergy, arthritis, and gastrointestinal drugs.

• GI NSAID Risk Strategizer:9 POINT-MIM employs a tool that automatically categorizes patients by risk for appropriate use of NSAIDs, including the COX-2 inhibitor drugs. The tool was designed from research conducted at Stanford University.10

• Outpatient Pharmacist Interventions: For some initiatives, the POINT-MIM system provides immediate information or patient assessment from which the outpatient pharmacist can call a physician when a new prescription for a targeted drug is received (eg, a COX-2 inhibitor). This prompt enables discussion of clinical and patient-related information based on current Permanente clinical practice guidelines and recommendations.

Other Decision Support and Practice Tools

• Paycheck Messaging Service: Short messages about DUAT and DRUG initiatives attached to physicians’ biweekly paychecks.

• DUAT Toolkits: Specific processes, treatment algorithms, and practice tools used in better-performing KP medical centers were identified and

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**Figure 1a,b.** Yearly cold and flu season trend in antibiotic prescribing for patients with selected viral diseases, by specialty group, for a) KPNC and b) KPSC. Selected viral diseases varied by region and by database.
disseminated in the form of Successful Practices Toolkits to standardize best practices. DUAT Toolkits include Antibiotic, Allergy, GI, and Arthritis Drugs; and After-Hours Prescribing.

- Medical center consultative visits: All medical centers were visited by the Pharmacy Consultative Services Team (KPNC) or by Regional DUAT leaders (KPSC). They provided consultation to overcome barriers to drug use management efforts and shared successful practices that had been identified at other medical centers.

- DUAT/DRUG Teleconferences and Videoconferences: These media events featured Permanente clinical experts and DUAT/DRUG leaders who presented information about appropriate use of targeted medications and answered attendees’ questions. These conferences were recorded (by audio, video, CD-ROM, and Intranet) and distributed to providers across the KP Regions.

- Physician specialists using peer-to-peer contact and counseling to champion best practices to primary physicians.


### Project Budget

- $300,000 was allocated for personnel expenditures directly related to DRUG/DUAT activities for analytic support, computer programming, project management, meetings, and business administrative services.

- $150,000 was allocated for nonpersonnel expenditures related to DRUG/DUAT activities, including direct mailings, printing, teleconferences, and videoconferences.

### Drug Use Management Initiatives

The regional DUAT and DRUG committees selected several drug classes for utilization management. The criteria for selection included high cost, wide variation in utilization, and availability of less expensive and equally effective alternatives as well as support from clinical experts. The committees worked with experts to create clinical recommendations, set performance goals, prepare educational materials, and format performance feedback data. The drug classes include:

- Antibiotics used in the treatment of upper respiratory conditions, especially broad-spectrum antibiotics such as amoxicillin-clavulanate (Augmentin), newer macrolides, and quinolones;

- Antiviral medications, specifically Tamiflu (oseltamivir), Relenza (zanamivir), and amantadine;

- Allergy medications, specifically intranasal corticosteroids and less-sedating antihistamines (LSA);

- Arthritis medications, specifically COX-2 inhibitors and other nonsteroidal anti-inflammatory drugs (NSAIDs);

- Upper gastrointestinal tract medications, specifically H₂ receptor antagonists (H₂RAs) and proton pump inhibitors (PPIs);

- Antidepressants, specifically selective serotonin reuptake inhibitors (SSRIs); and

![Figure 2. Trend in prescribing less-sedating antihistamine (LSA) to KPNC patients who have not received intranasal corticosteroid. Patients (unique medical record numbers) were aged ≥12 years and received at least 120-day supply of LSA but no intranasal corticosteroids within the past year.](image2)

![Figure 3. Trend in prescribing less-sedating antihistamine (LSA) to KPNC patients who have not received intranasal corticosteroid. Percentages based on no. of LSA prescriptions/no. of LSA + intranasal corticosteroid prescriptions.](image3)
Antihyperlipidemic medications, specifically the statins (KPNC only).

We evaluated results for the following three drug use management initiatives:

**Antibiotic initiative:** During the 2001-2002 cold and flu season, each region had more than 400,000 visits for respiratory diagnoses that are usually viral in origin. Our initiative focused on reducing antibiotic use for these conditions to preserve antimicrobial activity of the antibiotics.

**Allergy drug initiative:** 185,000 patients in KPSC and 238,000 patients in KPNC were seen for allergic rhinitis in 2001. Current medical literature about chronic allergic rhinitis supports the use of intranasal corticosteroids as the more effective treatment compared with the less-sedating antihistamines (LSA). Our goal was to increase use of intranasal corticosteroid drugs among patients with chronic allergic rhinitis. The initiative focused on decreasing the percentage of patients who were repeatedly prescribed LSA without having an intranasal corticosteroid drug prescribed also.

**Arthritis drug initiative:** Sales of COX-2 inhibitor drugs began in early 1999. By mid-2000, the number of COX-2 inhibitor prescriptions dispensed at KP was increasing at the rate of approximately 12% per month. More than 20,000 patients in each KP Region are cur-
Currently being treated with a COX-2 inhibitor, such as celecoxib (Celebrex) or rofecoxib (Vioxx), or have received a new prescription for one during the past year. Current literature shows no benefit associated with the use of COX-2 inhibitors compared with use of alternatives, except in a subset of patients who may be at high risk for gastrointestinal bleeding.\(^{13}\) The goal of the initiative was to reduce utilization by substituting other treatments for COX-2 inhibitors among low-risk patients.

**Methods of Project Evaluation**

**Quality and Cost Measures**

To evaluate improvement toward best practice in prescription drug use, quality and cost measures were established for each of the drug initiatives (Tables 3 and 4). Goals were established for each measure by averaging results from the four best-performing medical centers in the region during the baseline year (KPSC) or by approval of the chiefs of service (KPNC). Industry comparisons were used as a reference.

**Data Collection and Analysis**

Data were collected from linked, automated pharmacy systems and supplemented by KP administrative databases, including CARG/OPAS (Care Registration/Outpatient Appointment Scheduling), OSCR (Outpatient Summary Clinical Record), and PIMS (Pharmacy Information Management System). POINT-MIM was programmed to produce drug-initiative-specific reports. Reports could show results at a high level (eg, regional or medical center performance) or could focus on a specific department, specialty, clinician, or patient.

Analyses were completed for each drug initiative. Use of antibiotics to treat viral infections was evaluated by searching CDAP (Clinical Diagnosis and Procedure), ECS (Encounter Coding System), and OSCR database encounter codes to identify patients who were seen for a defined list of respiratory tract conditions likely to be caused by viruses (details available upon request). Seasonal adjustments were made for use of allergy drugs and antibiotics on the basis of prior 3- to 5-year trends. Use of COX-2 inhibitors was evaluated by applying the risk stratification method (GI NSAID Risk Strategizer Tool).\(^{9}\) For benchmark market share comparison, the POINT-Product Variance Tool was used to determine KP drug utilization and cost data. The source for external drug utilization and cost data was IMS Health (Fairfield, CT), a pharmaceutical industry market research firm.

**Results of Program Evaluation**

**Decreased Antibiotic Use**

Overall use of antibiotics and use of antibiotics for selected “viral” respiratory tract diagnoses during the cold and flu season decreased in both regions and across specialties for two consecutive years, without an increase in physician office visits or hospital admissions (Figure 1a,b). Antibiotic use was avoided in 65% (KPNC) and 75% (KPSC) of encounters with patients who had diagnoses that were probably viral in origin. The initiative reduced the cost for antibiotics by an estimated $1.5 million.

**Improved Use of Allergy Drugs**

The percentage of patients who received LSA prescriptions and who had not yet received a prescription for an intranasal corticosteroid decreased by 2% at KPNC (Figure 2) to 3.8% at KPSC (Figure 3). Utilization of LSA within KP continues to be about two thirds that of the community external to KP (Figure 4). The cost of LSA decreased by 2.9% (KPSC) to 5.3% (KPNC) between 1999 and 2001 (Figure 5).

**Improved Use of Arthritis Drugs**

The upward trend in utilization of COX-2 inhibitors was reversed in both regions. In 1st Quarter 2002 market share of COX-2 inhibitors as a percentage of total NSAID market share had fallen to 1st Quarter 2000 levels at KPNC and was below 1st Quarter 2000 levels at KPSC (Figure 6). Use of COX-2 inhibitors in lower-risk patients was reduced 66% in KPNC (Figure 7) and 48% in KPSC (Figure 8). Total NSAID market share utilization of COX-2 inhibitors within KP was about 6% in 2001 and 4% in 2002 (Figure 6), far lower than the 45% rate seen outside KP (Figure 9). The rapid increase in cost for COX-2 inhibitors (as a percentage of total NSAID cost) was also reversed; this cost was about 40% lower than that of the community (Figure 10).

![Figure 6. KP Regional trends in prescribing COX-2 inhibitors, expressed as percentage of total NSAID market.](image-url)
Comments

Initiative Results

Our efforts to promote judicious use of antibiotics are consistent with the recommendations of the Centers for Disease Control & Prevention (CDC),\textsuperscript{14} the World Health Organization (WHO),\textsuperscript{15} the American Medical Association (AMA),\textsuperscript{16} and the California Medical Association (CMA).\textsuperscript{17} Reducing inappropriate antibiotic use provides social, clinical, and economic benefits. From a social perspective, reduced antibiotic use helps slow the rate at which bacteria develop antibiotic resistance. From a clinical perspective, reduced use improves quality of care by reducing probability of adverse events and by preserving the effectiveness of antibiotics for treating future infections. From an economic perspective, reduced antibiotic use preserves member resources by reducing unnecessary drug expenditures.

For patients with chronic allergic rhinitis, current medical literature supports use of intranasal corticosteroids instead of LSA.\textsuperscript{11,12} We have achieved higher use of intranasal corticosteroids by reducing the number of patients prescribed LSA who have not also been prescribed intranasal corticosteroids, thus providing the most effective treatment of chronic allergic rhinitis.

Our efforts to promote appropriate use of arthritis drugs are focused on reserving the use of expensive COX-2 medications for patients at highest risk for gastrointestinal bleeding and on reducing the use of COX-2 inhibitor medications in patients who are at lower risk.

All these efforts have succeeded in improving clinical quality and cost effectiveness of our care. Best practice use of LSA and COX-2 inhibitors in 2001 resulted in more than $100 million cost avoidance compared with costs in California health plans outside KP. This result improves quality by allowing resources to be redirected to other forms of patient care.

Project Innovation and Leadership

The DUAT and DRUG efforts in this project demonstrated the following unique aspects:

- We established new KP Regional and local structures and processes that focused on appropriate drug use beyond traditional drug management strategies of formulary management, benefit design, and restricted use. These structures created local oversight and accountability.

Reducing inappropriate antibiotic use provides social, clinical, and economic benefits.
We designed, developed, and supported innovative and systematic clinical decision-making and practice support tools to help our clinicians make evidence-based clinical decisions.

We demonstrated a strong partnership between the medical groups and pharmacy services.

We shared and developed best practices through interregional collaboration in the form of periodic joint DUAT and DRUG teleconferences and reciprocal attendance at drug use conferences.

We engaged specialist groups and clinical experts who provided leadership, advocacy, and direction for strategy development and implementation.

We measured concurrent performance, sometimes enabling weekly feedback to physicians and providers, through database mining and reporting tools. We tracked drug utilization trends, compared practice patterns among medical centers, and compared prescribing practice of individual physicians.

Conclusion

The DUAT and DRUG project success in improving clinicians’ prescribing patterns toward best practice depended largely upon multidisciplinary collaboration. The results testify to effectiveness of the project design. Interregional collaboration between KPNC and KPSC allowed us to leverage resources and to share successful practices. We combined the most successful methods of behavior change by providing evidence-based education, initiative-specific clinical and decision support tools, appropriate measurement, and timely feedback.
Transferability of the DUAT/DRUG model is demonstrated by full adoption of the DRUG and DUAT structures and processes in two KP Regions and at 30 KP medical centers. We believe that the DUAT/DRUG model will apply to additional drug use management opportunities in the future.

Acknowledgments

We acknowledge the following teams for their continued assistance and support of DUAT (Table 1) and DRUG (Table 2): Medical-center-based committee chairs and members for implementing initiatives, monitoring, and follow-up; TPGM and SCPGM for supporting evidence-based medicine and striving for best practice; TPGM and SCPGM specialty chiefs and committees for providing leadership and advocacy for all the initiatives; Pharmacy Analytic Services for analyzing and providing accurate and timely reports; Pharmacy Drug Information Service for providing the evidence-based medical literature review; Drug Education Coordinators for managing local support of the initiatives; and Project Managers for supporting regional and local data analysis.

We also thank KP Consulting for their early business administrative support in 1999-2000, support which enabled initiation of the project.

References


“Hillside”  
By Wuhao (Taki) Tu, MD  
Dr Tu is a retired Nephrologist-Internist.  

More of Dr Tu’s artwork can be seen on page 69 or visit his Web site at: www.takitu.com.
The Epidemic of Obesity: Challenges and Opportunities for Kaiser Permanente

Obesity in the United States is accelerating at an unprecedented rate. The prevalence of obesity among adults in this country, now at 30%, has doubled in the past 20 years. Similarly, overweight in children and adolescents, now at approximately 15%, has tripled in this same period. Overall prevalence of obesity is expected to double again in the next 30 years and to increase most rapidly in the subset of the population at the 99th percentile of body mass index (BMI). Approximately one of 20 adults is now a candidate for bariatric surgery. If unaltered, this trend will mean that millions more people with extreme obesity (BMI greater than 40) will require treatment. Among adults, obesity has the same impact on health status as aging 20 years. Obese adults have 100% increased incidence of sudden death in addition to substantially increased overall mortality. Perhaps the most disturbing consequence of the obesity epidemic is increasing prevalence of cardiovascular risk factors in overweight children and adolescents. In the Bogalusa Heart Study, about 60% of overweight children between the ages of five and ten years have one cardiovascular risk factor (eg, hypertension, dyslipidemia), and about 20% have two or more risk factors. Type II diabetes is now commonly diagnosed among overweight adolescents.

These health risks are also accompanied by major economic consequences. Indirect and direct costs attributed to obesity in the United States are estimated at more than $100 billion per year and account for approximately 5.5% to 7% of total health care expenditures annually. Studies done by the Kaiser Permanente (KP) Division of Research in Northern California and by the Centers for Health Research in the KP Northwest Region have documented the increased health care expenditures associated with increasing BMI. For example, total cost of care for a cohort of KP members with a BMI of 35 or more was 44% greater than total cost of care for a cohort with a BMI ranging from 20 to 24.9.

Slowing the epidemic increase in prevalence of overweight and obesity will be extremely challenging; our approaches must be grounded in understanding the causes of this epidemic. Biologically, humans evolved in an environment of inconstant food supply and a high level of required physical activity. Thus, physiologic processes evolved to ensure consumption of food when available and conservation of energy when activity was not required.

Today, we live in an environment where food is available at low cost and where physical activity has been engineered out of daily life. When a positive energy balance as little as 10 kcal per day leads to a one-pound weight gain per year, the challenge of overcoming these physiologic processes is depressingly obvious.

Lifelong cognitive efforts are required to overcome these physiologic drivers. Humans find it difficult to evolve these new cognitive abilities fast enough to

The editors welcome William Caplan, MD, Kaiser Permanente (KP) Care Management Institute (CMI) Director of Clinical Development, and Helen S Pettay, KP CMI Communications Director and The Permanente Journal CMI Liaison, as our guest editors for this two-issue symposium on weight management and obesity. The material for this symposium is taken from transcripts of the CMI and Centers for Disease Control cosponsored symposia held on June 27-28, 2002, and November 7-8, 2002, in Denver, CO. We are also including material taken from transcripts from the Northwest Permanente, PC, Physicians and Surgeons-sponsored symposium in Portland, OR, December 11, 2002.

Through an innovative collaborative partnership, Dr Caplan and William Dietz, MD, PhD, Director of Nutrition and Physical Activity, National Center for Chronic Disease Prevention and Health Promotion at the Centers for Disease Control, lead an exploration into “a challenging public health ‘issue of epidemic proportion’ that has great import to both Kaiser Permanente and the health of our nation.”
outpace the increasingly rapid adaptation of “fast food,” to name only one societal influence. “Super-sized” french fries, available at McDonald’s® restaurants since 1998, are considered to be only “large-sized” today. In fact, 1500 kcal can now be purchased for a few dollars at most fast-food establishments. At the same time, public policy and market forces have reduced availability of fruits and vegetables while increasing accessibility of energy-dense foods.

Reduced levels of physical activity contribute to increased prevalence of obesity at least as much as the factors already mentioned.15 Twenty-seven percent of US adults engage in no daily, leisure-time physical activity.14 In the United Kingdom during the period extending from 1980 through 1990, daily core consumption decreased by a mean 750 calories per day—but mean daily energy expenditure declined by 800 calories per day, thus leading to a positive energy balance of 50 kcal per day, an amount sufficient to cause increasing levels of obesity in the British population.15 As Shinko Kumanyika stated, “We are unable to undereat sufficiently to compensate for being inactive.”10,p209

Strategies to address the epidemic of obesity must encompass a range of behavioral, social, and environmental factors. We must take a broad-based approach to the public health crisis of obesity by collaborating with experts from academia, medicine, other health care delivery systems, research, and the federal government. The Weight Management and Obesity Symposium contained in this and the next issue of The Permanente Journal therefore reflects the current range of clinical and public health perspectives on obesity.

The content of these articles is derived from a series of forums that included experts from both within and outside KP. Formal presentations are supplemented by a wide variety of viewpoints, expressed in the Discussion sections. The overall intent is to translate clinical research and experience into practical, implementable interventions and effective social and environmental solutions. Practical tools and an evidence-based clinical algorithm designed to help implement these interventions will be discussed in a subsequent issue of The Permanente Journal.

We have much to be proud of in KP for the many programs already instituted. We hope that this symposium will add support and guidance that will boost our efforts to reverse the obesity epidemic. ♦

Acknowledgments
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References
A conversation with the Care Management Institute Board of Directors and William Dietz, MD, PhD

Approaches to the Epidemic of Weight Management and Obesity

By William Dietz, MD, PhD

Editor’s Note: Through a series of working meetings, the Centers for Disease Control and Prevention (CDC) and the Care Management Institute (CMI) have brought together leading experts from academia, medicine, health care delivery systems, research, and the federal government to assess and promote implementation of programs for managing overweight and obesity. William Dietz, MD, PhD, has been an active leader of this collaboration.

As the disease burden in the United States has shifted from acute infectious diseases to chronic diseases, public health officials, the medical community, and health policymakers have begun to focus on those nonacute problems that account for a substantial proportion of morbidity and mortality in this country. Increasingly, obesity and overweight have taken the spotlight as one of the nation’s most rapidly growing and, from the public health perspective, deeply troubling health problems.

Both adult and pediatric obesity are areas of tremendous concern. Obesity in adults is defined as a body mass index (BMI) of 30 or more. Prevalence data from the CDC’s current National Health and Nutrition Examination Survey (NHANES) show that 30% of American adults fall into that category—a proportion that is increasing annually.

Even more alarming is the fact that growth in prevalence of severe obesity—in adults with a BMI of 40 or above—is far outstripping even the growth rate for simple obesity. The number of American adults classified as severely obese has tripled in the past 15 years, and 15% of African-American women have a BMI of 40 or more.

People who have a BMI of 40 or higher are a priority population for weight control. The only way to address severe obesity for many such patients is gastric bypass surgery. The collaboration between Kaiser Permanente (KP) and the CDC was prompted by recognition that to address this problem effectively, we need to do so well before people reach a BMI of 40. Moreover, when 30% of the population has a problem, effective care becomes a public health issue, and effective care for obese patients is what has driven our interest in this collaboration.

Additional research suggests that prevalence of pediatric obesity is increasing even more rapidly than prevalence of adult obesity. Data from nationally representative surveys show that childhood (ages 6-11 years) overweight has doubled between 1980 and 1999 and that adolescent overweight, affecting youth from ages 12 to 17 years, tripled during the same period. Fifteen percent of children and adolescents are overweight, and persistence of childhood overweight into adulthood may account for the rapid increases currently seen in class 3 obesity (represented by a BMI of 40 or more). Data from longitudinal studies suggest that children with onset of overweight before eight years of age who become obese adults have an average BMI of more than 40. Children and adolescents represent another priority population.

The question that originally brought the CDC and KP together was “What practical, effective, nonsurgical approaches should exist or should be considered for prevention and treatment of overweight patients and obesity in medical settings?”

• Practical—What can we do now without waiting for a new body of research?
• Effective—In many cases, we have efficacy but not effectiveness.

• Nonsurgical—KP has surgical options for obesity in almost all of its regions, and we didn’t want to exclude surgery. However, if people reach the stage at which obesity can only be treated surgically, we have not done an effective job of treating people earlier or of preventing obesity.

Although the initial query emphasized the medical setting, the KP/CDC working group participants recognized that an approach limited to medical settings was not likely to be effective without reinforcing what is done there with strategies in the community, workplace, and home. This approach requires expanded partnerships among health care providers, communities, schools, and nongovernmental organizations as well as community, state, and national government agencies—especially health care providers and payers at these levels.

No state Medicaid program reimburses for routine care of obesity. The opportunity now exists to begin a dialog in a number of states where the obesity problem is growing. Obesity may begin to drive coverage of preventive health services through Medicaid, because it’s so clearly an issue of “pay now [for prevention] or pay later [for disease].” In addition,
Tommy Thompson, Secretary of Health and Human Services is very supportive of preventive strategies. Through a national health perspective, we can begin to emphasize lack of physical activity and poor nutrition as risk factors for obesity, analogous to tobacco use for lung disease, and all that implies for community, state, and federal policies and restructuring the public health and disease care system.

What is needed to identify practical, effective, nonsurgical approaches to obesity and overweight treatment and prevention? One key means of finding solutions is more and better applied research. We must invest in alternative approaches, such as improved nutrition and physical activity. Recent trials, such as the Diabetes Prevention Program, demonstrate the promise of those strategies if we can convert them to practical strategies that can be applied in primary care.

The CDC’s Guide for Community Preventive Services offers several evidence-based strategies that can be used in health care, worksite, and community settings. Two new strategies are scheduled to be added to the physical activity chapter on the relationship of community structure to physical activity and obesity prevention. Applied research on the natural history of obesity in African-American women is desperately needed. When does it start, and how does it differ from what we know about this disease in white and other populations? Clearly, differences exist in how this disease manifests and how people think about it.

What about drug-based treatments? Although some promising drugs for treatment of obesity have emerged, I believe that reliance on drugs for obesity control will be prohibitively expensive. I calculated what it would cost to provide everybody in the United States who had a BMI of 30 or more with one of the two currently approved medications for obesity for one year. These costs are equivalent to the direct costs of obesity.

The United States also lacks an effective dietary strategy for combating obesity. Despite substantial changes in the American diet, such as increased consumption of fast foods and soft drinks, as well as inflation of portion size, we do not yet have a sufficient body of evidence to justify targeting any one of these factors.

A far more basic question revolves around whether the public actually understands not only that obesity is a health risk but, more simply, precisely what obe-
Approaches to the Epidemic of Weight Management and Obesity

Prevalence of Overweight\(^a\) Among US Children and Adolescents

- Aged 6-11 years
- Aged 12-19 years

\(\text{Source: Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS) National Health Examination Survey (NHES), National Health and Nutrition Examination Survey (NHANES).}\)

\(^a\) Gender- and age-specific BMI > the 95th percentile.

\section*{References}


Barbara Rolls, PhD, discusses the role of energy density in weight control

**Energy Density and Nutrition in Weight Control Management**

By Barbara Rolls, PhD

In 1998, an evidence-based report of the National Heart, Lung and Blood Institute concluded that low-fat diets are associated with spontaneous reduction of energy intake and body weight. The report further stated that reducing caloric intake confers additional benefits. The key question I consider in this presentation is: How do people who are trying to reduce their caloric intake avoid hunger and feel satisfied?

**Here is Where Diet Composition Becomes Important**

Low-fat diets are associated with weight loss because they have low energy density, defined as number of calories per portion. At an energy density of 9 kcal/g, fat has more than twice the number of the calories that carbohydrates or protein (each with 4 kcal/g) have. In general, my colleagues and I have found that among foods most commonly consumed in the United States, the higher the fat content, the higher the energy density. However, an even stronger relation exists between water content and energy density: The higher the water content of a food, the lower its energy density (Table 1). Water adds weight and volume to foods and increases sensory stimulation provided by a bigger portion.

To help consumers use information about energy density to manage their weight, Robert Barnett and I wrote a book, The Volumetrics Weight-Control Plan, in which foods are divided into four categories according to their energy density.

The first category consists of foods with very low energy density, ie, foods containing between 0.0 and 0.6 kcal/g. We encourage people to eat as much as they wish of these foods, which include soups, fruits, and vegetables. The second category includes most foods that we eat daily: starchy fruits and vegetables, beans, and lean meat. Under the volumetrics concept, people may continue to consume relatively large portions of these foods. The energy density for this category is between 0.6 and 1.5 kcal/g.

The energy density of foods in the third category ranges from 1.5 to 4.0 kcal/g and includes a wide variety of foods, such as cheese, salad dressings, some snack foods, and desserts. Intake of these foods, particularly those with higher energy density, should be moderated.

The energy density of foods in the fourth category ranges from 4.0 to 9.0 kcal/g. These foods have the highest energy density and include chocolates, fatty foods (eg, nuts, chips, and other deep-fried foods), and candy. In-

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**Table 1. Water content of foods**

<table>
<thead>
<tr>
<th>Food</th>
<th>Water content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soup</td>
<td>85-95%</td>
</tr>
<tr>
<td>Fruits and vegetables</td>
<td>80-95%</td>
</tr>
<tr>
<td>Hot cereal</td>
<td>85%</td>
</tr>
<tr>
<td>Egg, boiled</td>
<td>75%</td>
</tr>
<tr>
<td>Pasta</td>
<td>65%</td>
</tr>
<tr>
<td>Fish and seafood</td>
<td>60-85%</td>
</tr>
<tr>
<td>Meats</td>
<td>45-65%</td>
</tr>
<tr>
<td>Bread</td>
<td>35-40%</td>
</tr>
<tr>
<td>Cheese</td>
<td>35%</td>
</tr>
<tr>
<td>Nuts</td>
<td>2-5%</td>
</tr>
<tr>
<td>Oil</td>
<td>0%</td>
</tr>
</tbody>
</table>

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Barbara Rolls, PhD, holds the endowed Guthrie Chair of Nutrition at The Pennsylvania State University, has been president of the North American Association for the Study of Obesity and the Society for the Study of Ingestive Behavior, and has served on the advisory council of the National Institutes of Health’s Institute of Diabetes & Digestive & Kidney Diseases (NIDDK). E-mail: Bjr4@psu.edu.
take of these foods requires careful portion control.

The volumetrics approach does not reinvent nutrition; the approach simply follows recommended dietary guidelines and leads to healthy food choices. Consuming an adequate balance of nutrients is particularly important for people who eat fewer calories, because these people are at greater risk for nutritional deficiency. What’s new here is the advice to be more cautious about low-moisture-content foods, such as pretzels and crackers.

Several clinical trials using energy density to guide food choices are underway. Don Hensrud at the Mayo Clinic—the editor of a book on the subject11—has had success using energy density in a clinical trial. Michael Lowe and colleagues at Drexel University studied energy density in the weight maintenance phase of a weight-loss trial12 and found that using energy density yielded better results than did traditional types of behavior therapy. My colleagues and I are also doing a clinical trial at The Pennsylvania State University.

Conclusion
We urgently need action to combat obesity. The bad news is that the eating environment is at least partially driving the obesity epidemic; the good news is that the eating environment can be changed. We must give the food industry reasons to provide foods that promote satiety: lower-energy-density, good-tasting foods that don’t cost more than less-healthy choices. Although consumers are responsible for what they put into their mouths, we can make it easier for them to make reasonable choices.

Figure 1. Water rich grapes provide bigger, more satisfying portions of less-energy-dense food than do dried raisins.

After the presentation, Dr Rolls answered questions from the audience:

The fast-food industry is showing signs of improvement. For instance, McDonald’s® decided to reduce the amount of trans fat contained in foods that the company produces. Pepsico® also recently announced plans to reduce the fat content of snack products by 25% and to eliminate use of trans fat. Marketing data clearly show that public preferences are moving in this direction; we must support parallel movement in the food industry. How can this message—that the energy density of foods must be decreased—be translated into action by the food industry?

The message about reducing energy density has two parts: 1) Fat still counts, so reduce it—but not so much that you don’t enjoy food; 2) Increase the water content of your food, primarily by adding fruits and vegetables. Having energy density stated on food labels would be good. Even without this information, though, people can quickly assess energy density: If the number of calories per serving stated on the Nutrition Facts label is lower than the number of grams, the food has low energy density. When the number of calories is close to twice the number of grams (or higher), the food is in an energy density category that requires the consumer to be more cautious about portion size. Beyond that, people know what highly energy-dense foods are: high-fat, low-water-content (ie, dry) foods.

In clinical trials, how were subjects taught to do this calculation? Can this idea be translated into clinical practice?

Michael Lowe used my book, Volumetrics, which is also being used in some National Institutes of Health (NIH) clinical trials and in the Pennsylvania public school system. The messages in Volumetrics could certainly be made more visual. For instance, you could have interactive computer programs where you could change portion sizes as energy density varies. My book could be made more fun with pictures, more examples, and simpler recipes—the book could be made very appealing to consumers. I’d love someone to develop a brochure based on the concepts discussed in the book.

Can you comment on the difficulty people have reading nutrition labels and on how we might be able to get the food industry to give consumers better food labels?

The food industry worked hard to introduce a standard label that contained a satisfactory amount of information; when you suggest yet another number to include, they’re a little horrified. However, I think a simple number that people could understand more readily—a number stated in terms of energy density and portion size—would be great. Incidentally, one concern is that once people understand energy density, they will simply eat more if they know they are eating foods that have lower energy density. We therefore studied the effect of adding information about energy density on the label and found that in a group of people who were trained about energy density, labels didn’t affect eating behavior. At least, we found this result in a laboratory-based study.13

Do you believe in daily consumption of five smaller meals (ie, consisting of 250 to 300 calories each) instead of
three larger meals a day? And do you think the protein recommendation (15% of daily caloric intake) is too low?

Frequency of eating is a difficult area of research. The evidence about whether frequency affects metabolism and body weight is controversial.

We can’t justly say that one pattern will work for everybody. Part of the challenge is to identify meal patterns and types of foods that people can live with.

Animal and human studies indicate that of the macronutrients, protein has the most satiety value. But has any really good study been done on protein and satiety? I don’t think so; we clearly need to do more work. Protein comes with fat, too, and epidemiologic data indicate that, in general, people who eat more protein are heavier.

One concern is that consumption of fruits and vegetables will be inadequately emphasized if we focus only on labeling. How do we keep fruits and vegetables in view? First, we want to tell people that they can, in general, eat unlimited amounts of fruits and vegetables. The minimum five-a-day fruit-and-vegetable message is very valid. Under the auspices of the Produce for Better Health Foundation and the Centers for Disease Control and Prevention (CDC), we are working on a review of the effect of fruits and vegetables on weight management.

However, problems with fruits and vegetables exist: Produce is often of poor quality, unavailable, or simply not consumed. Therefore, although the government’s job is not necessarily to increase public consumption of fruits and vegetables or to make them more affordable, the US Department of Agriculture (USDA) is actively rethinking the food stamp and Women, Infants and Children (WIC) programs as a way to increase intake of fruits and vegetables.

We must think both about each individual person’s behavior and about population-level strategies—including food pricing—to reinforce what we’re trying to achieve clinically.

In my general pediatrics practice, I often see kids drinking juice from “sippy” cups or bottles. Excessive drinking of juice drinks—even drinks consisting of 100% juice—is an important issue. Parents are in charge of what children are offered, and children can choose to eat it or not. The notion that children may consume as much juice as they want is really the wrong message.

Most studies show that, in general, sodas and alcoholic beverages add calories to food calories. Some early research also shows that whole fruit is more satisfying than fruit juice. The more processed the food, the less satisfying it is for the same number of calories.

Would you comment on Gary Taubes’ article about dietary fat, “What if it’s all a Big Fat Lie?,” which appeared in the New York Times Magazine?

This field presents so many controversies that you can “tell the truth” simply by selectively including or excluding facts, as Taubes appears to have done. However, scientists do agree that we should eat more fruits and vegetables and fewer refined carbohydrates and that protein sources should be lean.

Acknowledgment

The National Institute of Diabetes & Digestive & Kidney Diseases supported the research.

References


Promoting Physical Activity and Exercise

Introduction

The US Surgeon General has been impressing upon the American public the need for more physical activity and exercise in their lives and to this end has called clinicians to action.¹

In this article, I focus on four points made by the Surgeon General:

• We must recognize that obesity is a major public health problem.
• We can help manage this problem by educating our patients in our offices about the benefits of good dietary habits as well as good physical activity habits.
• Because we live in a complex, multicultural society, the advice we give one person may not fit all people. Our advice, strategies, and prevention efforts must be appropriate for our diverse group of patients.
• Our job does not—and must not—end at the walls of our offices: We must link our patients to community resources that can facilitate weight control.

How Did This Obesity Epidemic Happen?

For many years, we’ve had access to good information about what constitutes a healthful diet. Research has shown that fewer than 3% of people actually follow four of the five dietary recommendations for intake of fruits, vegetables, whole grains, breads and cereals, and other protein sources (meat and soy).² Moreover, less than one third of the US population also follow the common recommendation for 30 minutes of physical activity at least three to five times per week.³ A 1999 study⁴ showed that, as a group, children have the most sharply increasing rates of obesity. In the past 20 years, the rate of obesity has doubled among preteenagers and has tripled among adolescents. Although the number of hours spent watching television has declined slightly in the past 20 years among children of high school age, well over a third of children of this age spend three or more hours watching TV each day.⁵

Why we are faced with this problem of obesity and how we have reached this point is thus no mystery. Widely held opinion asserts that losing only 5% of excess weight constitutes success. Why? Because, as we know, gaining weight and being overweight are really substantial health problems, and loss of only 5% to 15% of excess body weight has a substantial impact on the most deadly diseases facing us—primarily cardiovascular disease and diabetes.⁶ Just as important as weight reduction are the psychosocial benefits derived from increased activity. Depression and mood swings improve substantially with exercise.

The Role of Metabolism in Obesity

Understanding metabolism—in particular, fat storage and mobilization—is also important.⁷ Fat storage primarily takes the form of triglycerides, most of which are located in the fat cells. Muscle also stores fat. The same visual pattern of fat that we see in beef—the effect that we call marbling—is in our muscles as well.

Men and women differ in the way they store fat. In women, normal body content of fat is between 25% and 32%; in men, the normal percentage is 18%.⁷ The distribution pattern of fat also differs between the sexes. A central (abdominal) obesity pattern is more common in men, whereas the pear-shaped pattern—accumulation of fat around the hips and thighs—is more common in women. The central obesity pattern more commonly seen in men is also correlated with a higher risk of cardiovascular disease.⁸

Now, here is both the good news and the bad news. When sitting, women do not burn as much fat as men do when sitting. However, when a woman stands up and starts moving around, the rate of fat metabolism in the woman actually increases more than it does in a man walking next to her. Part of the reason is the location of fat stored in the body. In people with the central obesity pattern, epinephrine released by exercise stimulates the fat cells to mobilize fat stores. The receptors that are stimulated by epinephrine during exercise are the alpha and beta receptors. Lipolysis (breakdown of fat) is stimulated...
through the beta receptors, and the laying down (storage) of fat is stimulated through the alpha receptors. Beta receptors are more sensitive in abdominal fat than in hip region fat. Therefore, in people with the pear-shaped obesity pattern, the receptors appear to be less sensitive to this effect of epinephrine. A clinical correlate of this difference is one that we see often: Exercise changes body appearance much more quickly and readily in men with the central obesity pattern than in women with the pear-shaped fat distribution pattern.

Women and men also have a different metabolic preference for selection of an energy source—and I am not talking about Krispy Kreme™ versus Dunkin’ Donuts®. Instead, I am referring to fat versus carbohydrate sources. Carbohydrate sources of energy tend to be the storage forms used most commonly in very-high-energy exercise activity. One reason that women burn fat more readily with activity is that they tend to have more fat distributed in muscle tissue than men do.

Reasons to Combine Exercise and Dietary Change

Activity and exercise have physiologic benefits, and one of these is weight loss. However, asking our patients to exercise as the primary source of eliminating excess weight has had a disappointing outcome. But combining exercise with a dietary program gives a better outcome: The effects on carbohydrate metabolism and on fat metabolism are substantial. Studies indicate that when people exercise regularly, their insulin resistance begins to fall. Fat cells are sensitive to the epinephrine released with exercise. When exposed to this epinephrine, the fat cells give up their fat more readily. This metabolic effect persists for 24 to 48 hours after activity. So, if we advise our patients to do some exercise—even if it is every other day—they will probably experience some persisting metabolic benefit.

In addition, people experience psychological and emotional benefits as they become more physically active, even if they don’t lose much weight with an exercise program. In one interesting study, children watched television or videos for 15 minutes. A cohort of this group then exercised moderately. Measurable improvement in mood stabilization was seen in the children who were active. This finding is particularly important given the increasing concerns about depression and suicide among younger children these days. Although the degree of improvement in clinical depression with regular exercise therapy has been disappointing, the uplift and stabilization of mood (decreased severity of affective disturbance) as well as the stress hardness that accrues from regular exercise is very potent—and that effect is what I “sell” to my patients. I tell them that they will really feel better and will be better able to cope with their day-to-day stress. In addition, most activities and exercise programs cause people to get out and connect with other people, and the social support aspects of this effect become highly beneficial for many people. Many people who are overweight or obese have never liked the way they look in exercise or active sports wear; however, as someone who becomes more active can begin to normalize the sense of themself as a person who can be active.

If Exercise is So Good, Why Don’t We Do It?

Scientists have been examining that question for a long time. People need to be ready to change. A person’s own attitude about the ability to perform exercise is very important. People who say, “You know, I have never been an athletic person: I am kind of a ‘klutz’” are inclined to be sedentary because they don’t see themselves as having the skills to be active.

We encounter many barriers to getting our patients—and even ourselves—involved in exercise. As overweight people become less active, they lose strength, endurance, and their flexibility. Becoming active can therefore hurt. And as people become overweight, their weight-bearing joints and other structures begin to fatigue, and physical impairment develops. We therefore must help our overweight patients to find exercises and activities that can be done despite various types of impairment.

In our culture, it’s easier to sit around too much and be inactive. We caregivers share with our overweight and obese patients the same barriers to getting enough exercise in our daily lives. For kids, a wide assortment of competing products serves as enticement to inactivity, whereas working adults are hindered from exercise by work-related stress, family demands, and worry about the economy and world affairs. All these things tend to demote physical activity to a lower-priority level in our daily lives. For elderly people, many of whom have physical impairment to worry about or are socially isolated, just getting to and from an exercise activity can be more difficult than for younger people.

As we Americans age, our fitness level falls and our weight increases. Whereas most young people think about exercise as fun, many older
people associate activity with discomfort and have very real fears about injury and falls. For these people, social isolation compounds the difficulty of gaining access to exercise opportunities.

**What Defines a Good Exercise Program?**

Basically, we want to say this to our patients: “you know, I want you to do something moderately active three to five times a week.” “Moderate” physical activity is activity that raises the heart rate to about half its maximum but does not feel overwhelming to the patient. We know also that low-intensity and long-duration activity is better than short bursts of high-intensity activity for burning fat.

As people intensify their exercise, they burn more calories, a greater proportion of which comes from carbohydrates. From the standpoint of what’s practical for our overweight and obese patients, we want to emphasize moderate, low-impact, long-duration physical activity.

Patients should also participate in different forms of exercise—not only to keep exercise interesting but to spare the body from overuse types of strain. We must link this advice to teaching our patients about injury and falls. For these patients, we should emphasize three conditions and evaluate them as clinically indicated.

For overweight and obese patients, we should emphasize three types of low-impact exercise: walking during daily activities, use of a stationary bicycle, and exercise in a swimming pool. In an aquatic environment, many overweight and obese patients feel a physical freedom that they haven’t felt for years and that improves the joint range of motion. Aquatic exercise can also mobilize lymphedema and regular edema. We should recommend exercise programs that emphasize repetition and low resistance; those types of exercise are much more peaceful for the musculoskeletal system. The balance of activity and stretching also is very important: As people become more active, stretching helps to reduce musculoskeletal strain.

The word “exercise” is often scary to our patients, so we should use the word “activity,” which is a much kinder-sounding word. To demonstrate this concept, I’ve got my pedometer strapped on my belt all the time for daily use in my practice. I point out to people that using a pedometer is both a scientific and a fun way to track daily physical activity. Basically, the difference between being sedentary and maintaining a good level of activity is about 10,000 steps a day (roughly five miles). I used to think I was pretty active—then I attached the pedometer to my belt and discovered that on most days, I took only 5000 or 6000 steps! In contrast, my wife—who is a nurse in an ambulatory care setting—walks 24,000 steps per day. If your patients have a dog, get them to walk the dog; the exercise is great for both dog and person.

**How to Design an Exercise Program for Your Patient**

Design different exercise programs for different groups of patients.

Design different exercise programs for different groups of patients. For example, the elderly do better in social groups. Many of my elderly patients come in to my office very excited about the KP Silver Sneakers Program. They love it! They get to talk to other people in their own age group. They do exercises that are physically appropriate for the patients’ fitness level. For these patients, we should concentrate on activities that improve balance and coordination, because good balance and coordination help prevent falls. Keep the program simple: As people age, they don’t think of themselves as physically adept. And because some elders might think they don’t have enough fun in their lives, make the exercise program fun for them.

For children, provide a different array of activities so that the kids are not constrained into doing something
they don’t like. Anything we can do to get them off the couch and away from the television is good; remember that even short periods of activity are very good for improving children’s mood fluctuations.

In general, men and women differ in the types of exercise they select. Men often seek to build muscular strength, and they enjoy the competitive aspect of physical activity. Women more often select exercise because they know it improves their health. They look for mood benefits, weight control, and social support. The social contact they get is very important—they enjoy and benefit from it, whereas more men appear to be content to just run off into the sunset all by themselves. We must understand that in our culture, women are most often the caregivers for elderly parents and for children and that our programs must therefore provide support for women by addressing their childcare needs, thus allowing them to participate in an exercise program. In addition, women perceive the discomfort of exercise to a greater degree than men. This perception can discourage women from activity but can be overcome with gently persistent efforts. Women struggle much more than men with our social imprinting on how we view and judge our bodies. The exercise environment is a great place to teach women to be healthy and strong instead of focusing solely on their weight and their appearance.

**Conclusion**

As caregivers, we are uniquely positioned to address our nation’s challenging epidemic of overweight and obesity. Tools to equip our patients with the knowledge, experience, and hope that enables them to change lifelong patterns of inactivity, thus freeing them to see a brighter and healthier future. Sometimes—now, for example—any step can be a step in the right direction. ✪

**References**


Nico Pronk, PhD, provides a summary of HealthPartners’ highly successful 10,000 Steps® program

One Step at a Time—The 10,000 Steps® Program Increases Physical Activity

Introduction

The mission of HealthPartners, a health plan based in Minneapolis, Minnesota, is “to improve the health of our members, our patients, and the community.” With obesity and its accompanying health complications an increasing problem nationwide, finding a way to address obesity and overweight became a key component of the organization’s Partners for Better Health initiative. Begun in 1994 and now in its second iteration, the program—currently titled Partners for Better Health 2005—seeks to create measurable improvement in member health and includes five-year goals in areas of need. These goals provide focus for the organization and emphasize partnerships among many stakeholders, such as clinics, employers, the health plan and its members, and the community.

In creating goals for Partners for Better Health 2005, program developers considered—and then chose to focus on—the role of physical activity in improving health and preventing health problems. Specifically, the goal articulated by Partners for Better Health 2005 is “to increase the proportion of individuals among our members and our community who choose to live a physically active life.” Several objectives are included in this goal:

- Among adult members 18 to 65 years, increase the mean number of physically active days by two days per week.
- Among adolescent members, increase the mean number of physically active days by two days per week.
- Among senior members 75 years or older, reduce prevalence of completely sedentary behavior by 50%.
- Increase to 90% the proportion of people who can identify twice as many advantages as disadvantages associated with being physically active.

The 10,000 Steps® Program

As one way to meet these objectives, HealthPartners chose to seek improvement one step at a time—literally. The result was the 10,000 Steps® Program, a pedometer-based program of tracking, motivation, health education, and participation incentives. The goal for enrollees—to take 10,000 total steps per day—is deceptively simple because working toward this goal causes participants to develop new habits and new attitudes about physical activity that program developers believe could last a lifetime.

A pedometer-based program was selected because it would provide a well-designed method to increase physical activity among overweight people. To successfully influence members who had generally been inactive, no activity component could be of high intensity—not only to avoid injuries but also to combat the discouragement that sedentary people frequently feel when confronted with an exercise program. The key is continuing to purposefully differentiate between exercise and physical activity. Many inactive people—especially those who are overweight—have a very low level of fitness and can become completely demotivated when presented with an exercise program that they perceive as too difficult. A pedometer program is something people of all fitness levels can use.

Extensive planning and analysis were used to design a program that would appear appealing, accessible, and motivating. Clearly envisioning the target audience was crucial, as was creating a message that consistently promoted readiness to change (the staging construct). Program developers also reviewed cur-

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rent literature on physical activity and related trends observed at the national and state levels. In addition, two focus groups consisting of health plan members offered consumer input on program development as well as on artwork and layout for the program’s printed materials.

As a pilot program, the 10,000 Steps® Program made enrollment entirely voluntary. Enrollees were mailed a kit that included a pedometer; a personal action planner; a log for tracking steps; motivational mailings sent biweekly for eight weeks after enrollment and then bimonthly for the next six months; and prize drawings as additional incentive for continued participation.

Because steps are tracked as they are taken, users receive immediate positive feedback—a major motivator that counteracts discouragement, one of the greatest deterrents to increased activity.

The pilot program included 92 adult health plan members. Nearly 70% of these participants increased the number of steps they took during the first eight weeks of the program, and 31% actually reached the goal of taking 10,000 steps daily. Half the participants had not reached the goal of taking 10,000 total steps but believed that their level of activity had increased.

These results were encouraging but had only a small role in determining whether the program would be extended to the rest of the organization’s members: HealthPartners’ members had already made up their minds—affirmatively. Before the pilot program reached its conclusion, the program attracted a greatly increased number of requests for enrollment. In the past year, 15,000 people enrolled in the program, which was never formally marketed to the members. This enrollment marked a 248% increase over the 2001 enrollment. In early January 2003, the 10,000 Steps® Program went on-line (see www.healthpartners.com/10000steps), a development that enabled members to participate in every way, ranging from enrollment to tracking their own progress online. This online version further enhances accessibility, scalability, and sustainability of the program, which is already regarded as one of HealthPartners’ most successful programs for promoting health and wellness.

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References
Introduction

Five years ago, Dr Ken Resnicow (Professor of Behavioral Science and Health Education at Emory University) and I reviewed and summarized the results of all randomized controlled cardiovascular disease prevention studies conducted in US schools. Across the studies, we found significant improvement in 65% of the smoking outcomes reported, 36% of the objective physical outcomes, 34% of the dietary intake outcomes, 34% of the lipid outcomes, 30% of the physical activity outcomes, and 18% of the blood pressure measures reported. At the very bottom of the list, there was significant improvement in only 16% of the adiposity outcomes reported. These results suggest that obesity may be more difficult to change through school-based health education interventions than some of the other cardiovascular disease risk factors.

In this presentation, I describe some successful pediatric obesity prevention programs. I also identify factors which appear to be shared by these successful programs.

The Stanford Adolescent Heart Health Program

Joe Killen and Michael Telch, two psychologists, in the mid-1980s started the Stanford Adolescent Heart Health Program (SAHHP), which studied tenth-grade students at four public high schools in Santa Clara, California. In that study, two schools were randomized to intervention and two schools served as untreated control schools.

Based in social cognitive theory (the main theoretical framework for our work), the SAHHP included a 20-session, multirisk factor classroom intervention. We trained teachers to deliver the programs in the schools. Program goals were to increase physical activity and fitness and to decrease dietary fat intake, body adiposity, and smoking. Assessment was done at baseline and two months after the end of the 20-session intervention.

As determined from self-reports, the percentage of tenth graders who were physically active improved substantially in the treatment group compared with the control group. We defined physical activity as at least 20 minutes of physical activity three days per week and vigorous enough to "work up a sweat." Consistent with the self-reports, we also saw significant improvement in resting heart rate, a measure of cardiorespiratory fitness, in both boys and girls. In boys and girls, statistically significant changes occurred also in self-reported low-fat, high-fiber food choices.

The SAHHP also examined body mass index (BMI) as an objective measure of change in caloric balance. Compared with controls, boys in the treatment group had a statistically significantly smaller increase in BMI and girls in the treatment group had a decrease in BMI. Similar statistically significant changes were seen in triceps and subscapular skinfold thickness for the treatment groups.

TV Watching and Pediatric Obesity

Another school-based approach we have studied recently is reducing children's television viewing. This approach was tested at two public elementary schools in San Jose, California, in a total sample of 192 third- and fourth-grade children. One school was randomized to a curriculum developed to decrease use of television, videotapes, and videogames; we trained the regular classroom teachers to deliver this curriculum. Both schools received assessment at the beginning and at the end of the study in the fall and spring of a single school year.

Compared with children in the control school, the treatment school had about a one-third reduction in use of television, videotapes, and video games. The intervention—which did not address physical activity or diet—resulted also in substantial improvement in BMI in the treatment school compared with the control school. BMI for the treatment school increased nearly half as much as in the control school, a difference of about two pounds per child of average height—quite a large reduction in weight gain for a non-high-risk sample. Children in the intervention school grew in waist circumference by nearly an inch less than with children in the control school.

We are not the only researchers to report improvement from reducing television viewing. In a two-year intervention, Steve Gortmaker’s Planet Health program also targeted television viewing—as well as physical activity and diet changes—in children attending middle school. Compared with the control group, girls in the treatment group had statistically different (lower) prevalence of obesity, a combined measure defined as BMI and triceps skinfold thickness greater than the 85th percentile.

Results in Other School-Based Health Programs

In addition to classroom curricular programs, other approaches have targeted school food service programs, physical education, and, more recently, after-school programs. In controlled trials, no school food service intervention and only a few physical education interventions have had any effect on measures of body fatness. Almost no data exist so far for after-school programs.

Intervention relating to physical education is effective when researchers introduce other activities into the school day instead of changing physical activity within existing physical education paradigms. In one study, we studied 81 seventh-grade students attending low-
income schools in East Palo Alto, California. Of the 81 students, slightly more than half were girls, and the mean age was 12.5 years. The study population included mostly African-American and Latino students. Participants were randomized to a 12-week physical education program of either Hip-Hop dance (three days a week for 40 to 50 minutes during the regular “PE” period) or standard physical education led by the regular teacher. Medical students or undergraduates volunteered to lead the dance groups.

For girls only (compared with boys), the 12-week intervention produced statistically significant fitness benefits: Girls showed substantial response in resting heart rate and BMI. Girls in the dance program had no increase in BMI, whereas BMI increased in girls in the control group. 3

The National Institute of Diabetes and Digestive and Kidney Diseases recently funded an after-school multiethnic dance program in schools for us. The program will offer African dance, Hip-Hop, ballet folklorico, Filipino dance, and Hawaiian dance for girls. In a randomized controlled trial, we will compare results of this after-school dance class program with results of a more traditional program consisting of nutrition and physical activity education.

The Stanford Girls Health Enrichment Multisite Studies (Stanford GEMS) pilot study tested an intervention that included after-school dance classes and a family-based program to reduce TV viewing. In this 12-week pilot study, we studied eight- to ten-year-old African-American girls at high risk for obesity. These girls were randomized to either a nutrition education program with newsletters, community lectures, and nutrition demonstrations for families or to an intervention consisting of family TV reduction and after-school dance classes.

No statistically significant differences were seen in this pilot study, which included 61 families. However, in only 12 weeks, the girls receiving the dance and TV viewing reduction intervention gained only about half as much in BMI and waist circumference as did girls in the nutrition education group. This result is promising, and we have received funding to conduct a full-scale trial with 260 families.

Conclusions: What We Have Learned

As these programs have shown, successful models for childhood and adolescent obesity prevention do exist—and so do unsuccessful approaches. We must build from successful models and must stop replicating the models that haven’t worked. We have learned also that we must focus on obesity as a behavioral problem by targeting specific, “countable” and changeable types of behavior that contribute to energy intake and expenditure.

The effective programs have been strongly based on theories of behavioral change and include motivation as an important component. Our pediatric patients—and the public—are not as motivated by future good health as we clinicians are. Instead, they’re motivated by things like fun and taste. We must therefore think less about what motivates us and must instead think more about what motivates our target audience.

Another important observation is that the minimum length of the pilot studies discussed was 12 weeks and consisted of more than health lectures. Successful programs deliver a large dose of content and include many sessions over a long duration.

Future school-based research should focus on improving interventions and on small-scale efficacy trials. Etiologic research is also very important, but to make any progress in slowing the obesity epidemic, we need to focus much more on efficacy trials of specific behavioral strategies (including environmental change strategies) followed by large-scale effectiveness trials to help translate the efficacious strategies into effective public health programs. We need also to study how best to disseminate successful programs. For example, even if an intervention is successful in Oakland, California, we may not know how to extend it to other locations and populations across the country.

After the presentation, Dr Robinson answered questions from the audience:

How did you get children to watch less television?

Dr Robinson: We started by creating a challenge for them. Eight- to ten-year-old kids are often motivated by a challenge, especially if adults doubt that they can do something.

Then, through self-monitoring activities, we made the kids aware of how much time they spent watching TV. We asked them, “What do you really like to do with your time?” Most kids don’t place television viewing at the top of this list; most kids would rather play with their pets, build things, or play with friends. Kids pick their own motivators; we just point out how much more of these activities the kids could do if they watched less television.

Next, a “television turnoff” challenged kids to go without television, videotapes, or video games for 7 to 14 days. This approach builds confidence and skills to go without TV. We also deliver a series of lessons to help promote efficacy of the approach. Many kids—about two thirds in our studies—can go without television for this period of time.

We then add competition, self-challenge, and levels of achievement to the program. We focus on goal-setting by saying, “You don’t have to cut out television altogether. Just choose a goal and try to stay under that.” Most classrooms came up with a 7-hour-per-week goal. No intervention study has shown a good dose-response threshold for TV viewing, but limiting TV viewing to one hour per day makes sense.

Kids moved from one level of achievement to the next; we thus used the same strategy that video games use. Kids don’t need prizes or big awards; they can be given the opportunity to clean the blackboard or to collect papers for the teacher. Things we might otherwise think of as punishment seem like privileges to a child in a classroom.

We also worked on “intelligent viewing,” a process in which the whole family identifies beforehand what they want to watch. For in-
stance, if the baseball World Series is scheduled to be on, each family member must know that you can’t watch an hour of TV every day of the week and still have enough TV time left to watch the game.

We worked with families on environmental change too, but that’s a very tough area to change. Televisions are at the center of many homes, and parents can be more resistant to change than children are. Parents are enlisted in the process by focusing on children.

What level of concern about obesity do you see among school boards or superintendents of schools?

Dr Robinson: The level of concern is rising, but even school districts that adopt these programs hesitate to end soda contracts in high schools or to eliminate fast food from the cafeteria. The school districts feel dependent on these sources of revenue, perhaps because California schools are so poorly funded. The same situation may be the case in other parts of the country.

The Los Angeles Unified School District School Board just passed a policy banning availability of sodas throughout all schools starting in 2004. How can we encourage this type of policy change?

Dr Robinson: I support the use of policy to change the food environment to which kids are exposed in schools. However, I haven’t come up with a way of doing it. I think that this change must come from parents and from leaders in the community, because each school district is independent.

Dr Dietz: Communities can receive income from vendors and still offer healthful options. School districts can carefully restrict the availability of those vending machines and determine what is stocked in them.

School foodservice programs that have been successful in getting healthy choices included have worked closely with stakeholders and student leadership to be sure that school cafeterias offer menu selections that the students will eat.

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References

Teach Them Well
The grandfathers and the grandmothers are in the children; teach them well.

— Ojibway proverb
Introduction
The Stanford Pediatric Weight Control Program is a family-based behavioral program designed to promote healthier eating and exercise habits for overweight children aged 8 to 12 years and their families. With the exception of a hiatus in the early 1990s, the program has existed continuously since the mid 1980s and is based on the model of family-based behavioral treatment developed by Leonard Epstein, MD, at the University of Pittsburgh. Before this approach to family-based treatment existed, most treatment efforts addressed weight control by using a more traditional medical model—that of individual therapy. By having children and their parents meet in separate groups, Epstein showed, in a series of controlled studies, that weight loss could be achieved and maintained over an extended period of time. In this model, groups of parents meet at the same time as groups of children meet. Material is covered by group leaders in separate group settings for children and parents.

Structure of the Program
The Stanford program, directed by Thomas Robinson, MD, Assistant Professor of Pediatrics, consists of 24 weekly sessions spanning six months. Groups are conducted in either English or Spanish and include 9 to 12 families who pay a deposit to encourage attendance. Participants learn to classify foods into “red-light foods” (high-calorie, low-nutrient value), “yellow-light foods” (the major portion of their diet), and “green-light foods” (foods containing <20 calories per serving). Another module of the program adds exercise habits, and the maintenance-phase module alternates discussion sessions of specialized topics (eg, fast food, holidays) with a family exercise class.

Another important program component is the time spent in each session during which the family meets together to talk or to solve problems. Children and parents create reciprocal contracts in which children set goals to reduce red-light foods and parents set goals to create a red-light-food-free environment.

Program evaluation consists of weekly weight measurement, monthly height measurement, counting the number of red-light foods whose quantity was reduced in the diet, and observing the extent to which healthier habits were acquired. The goal for each child is to maintain weight or to gradually lose no more than one pound per week; the change in percentage overweight is calculated for a six-month period.

Results for Program Participants
During one evaluation period, English-language groups included 65 children from 62 participating families. Parents and children were a mean 71% overweight. At the outset of the program, 17 parents were of normal weight, 39 were overweight (body mass index [BMI] 25-30), 26 were obese (BMI 30-40), and 7 were severely obese (BMI >40). Seventy-two parents were measured and weighed both before and after the program. Of the mothers, 63% lost a mean 4 lb each; 67% of the fathers lost a mean 6 lb each.

Thirty-two children from 30 Spanish-speaking families participated; these children were a mean 71% overweight. Twenty-three of these Spanish-speaking parents were measured before and after the program. Six were of normal weight, 11 were overweight, 18 were obese, and 1 was very obese. Of the mothers, 77% lost a mean 9 lb each. Of the fathers, 83% lost a mean 3 lb each.

Benefits of Family-Based Programs
Studies published by Epstein1-3 and (to a limited extent) by others,4,5 show that family-based, group weight control programs may be more feasible, efficient, and effective than individual counseling received from primary care providers. Such an approach is consistent with recommendations published by an expert com-

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mittee under the auspices of the Maternal and Child Health Bureau in the US Department of Health and Human Services.

Recognizing the positive efforts of a family trying to improve eating and exercise habits is very important. Changing these habits—whether for an individual person or for an entire family—is incredibly challenging. Families may have had so many difficult and failed experiences of making changes that it’s hard for them to imagine that they could ever succeed. An important strategy is to notice even the smallest change and to offer congratulatory and positive comments about it. Taking the opportunity to notice each small change can be very powerful and can give families the opportunity to think about themselves in new and exciting, positive ways.

Acknowledgment
Tom Robinson, MD, MPH, provided expert advice.

References

Obstacles
Obstacles are those frightful things you see when you take your eyes off the road.

— Hannah More, 1745-1833, playwright, novelist, poet

Kid Feedback
“What I liked about the program was that it taught me how many red lights I was eating.”
“I liked the motivation I got from other people.”
“It was fun to talk to other overweight kids.”
“I think that it’s really nice to talk about how our weeks go, and get suggestions, or have people say you did a good job.”

Parent Feedback
“The program concept is easy to understand. Keeping track of what we ate really helps. Just staying consistent in writing our food and exercise was tough at times. I know it works because when we were consistent, we lost/maintained our weight.”
“I liked the fact that the program involved the family. I also like the fact that the program did not fixate on weight loss but more on healthy lifestyle.”
If I were in charge of treating obesity in the United States, I’d spend all the money working with children like this boy. He’s Latino and lives on the US-Mexico border, across the Rio Grande from Mexico. His mother was a patient of ours; she’s diabetic, going blind, and having a leg amputated. The boy too could be at risk of becoming diabetic one day; that’s what’s happening to this population.

Along with African Americans, Latino Americans are now one of the two largest minority groups in the United States; this situation happened very quickly because these groups tend to have many children. Latinos are younger than the white population, less well educated, and have lower incomes; 27% live below the poverty level. Prevalence of overweight and obesity in Latinos is 73%. Along with prevalence of obesity, Latinos have more risk-taking behaviors that contribute to diabetes, hypertension, alcoholism and cirrhosis, many types of cancer, and violent as well as accidental death.

The statistics make it clear that we must find ways to help. Behavioral analysis is needed. Researchers must involve themselves in the Mexican culture and see what can be done. Short-term studies of weight management in minorities exist, but, unfortunately, few randomized controlled trials of weight management have been conducted in minority populations. We do know that recruiting minority participants is more difficult than recruiting white participants; moreover, Latino participants who join drop out more often, and those who participate lose less weight than their white counterparts.

What factors are associated with obesity among Latinos? First and foremost, poverty. Poverty is the driving force in our culture. Poor people tend to be heavy; rich people, skinny.

Acculturation is also a factor. As people assume for themselves the values of the white population, they become heavier. Acculturated Latinos eat more fried foods and less fruit, and Latinos of low socioeconomic status (SES) have fewer low-fat dietary practices. Compared with whites, Latinos eat more servings of meat; Latinos also eat a less varied diet, in general.

Maternal nutrition knowledge and feeding practices are factors in obesity. So are cultural beliefs like fatalismo, the idea that whatever happens, happens: “I’m going to get diabetes like my parents and my grandparents.” Language issues are also a factor.

How can we improve cultural relevance and sensitivity? First, understand cultural differences. Perhaps emphasize factors like diabetes and hypertension instead of weight itself. Second, incorporate culturally based food preferences and reinforce healthy food choices. Consider the “food pyramid” only in relation to special dietary needs; for example, remember that the food pyramid isn’t relevant to a population that doesn’t eat many vegetables—and along the US-Mexico border, Latinos don’t eat many vegetables. One of our dietitians doing a nutrition demonstration had brought a salad with her, and the grandfather said, in Spanish, “Woman, get those weeds out of here.”

Third, work with extended families—such as the grandmother who heads the family—instead of focusing on individual family members. Instead of discussing “basic food groups,” talk about folk systems of food classification.
Cultural Competence in the Prevention and Treatment of Obesity: Latino Americans

Formation. This approach is used by our therapists, who are Mexican-American bilingual dietitians who live in the culture.

Three Studies of Dietary Practices in Latino Populations

We studied a Latino population in Starr County (Texas), along the Rio Grande River, 300 miles from Houston. The county is largely Latino and is the second-poorest county in the United States. Most Latinos there are migrant workers who live substantially below the poverty level. From this population, we recruited obese Latina women in support groups; for example, we recruited schoolteachers as a group. We randomized groups, not individuals, so that participants would already have a self-established social support system. We also enlisted participation of local community leaders, such as the local nurse, disc jockey, and sheriff.

Weight was our primary outcome measure. Using traditional foods, we replaced flour tortillas with corn tortillas; replaced lard with other oils; and made other substitutions. We wanted to introduce a healthy diet to the study subjects while allowing them to retain as much of their traditional Latino diet as possible.

We also encouraged groups to walk together, and we designed behavioral modification strategies that were adapted to the culture. Reward systems for walking and other behavioral strategies were important. We held award ceremonies, at which local grocery stores presented fruit baskets to study participants.

The study resulted in a mean weight loss of nearly five pounds per participant. Many women did lose a substantial amount of weight, but overall weight loss was disappointing. Participants maintained the weight loss for a while but then started to regain the weight. The problem, I think, was that the study was administered from 300 miles away.

In another study, the target population of which was obese mothers, we included the whole family because social support was an important element of the study design. Families were randomized to treatment or control groups; the control group consisted of mothers only. The groups did not speak or read English—or read Spanish—very well. We therefore used illustrations in which food groups were indicated in red or in green. Green indicated fruits and vegetables, and red indicated higher-fat foods. We taught study participants to shift the highest proportion of foods in their diet—and thus colors on their progress chart—from red to green.

Among participants in this study, mean change in BMI was two to three units—double the weight loss seen in the Starr County study—and weight loss was maintained reasonably well during the treatment year. The control group also lost weight but not as much as did the treatment group. For a subset of patients with a record of acceptable dietary choices, self-reported data about intake of calories and fat grams showed improvement in both the treatment group and the control group.

We conducted our third, most recent study in Houston using the same interventions and culturally relevant strategies but adding use of orlistat, a weight loss drug that blocks metabolism of about a third of fat consumed. The data are currently under review but are favorable so far. Subjects have lost about 9% of their body weight—a loss of about 20 pounds in these Latina women. The combination of pharmacotherapy and lifestyle modification thus seems to be effective.

So, what do we know? The prevalence of obesity in minority populations in the United States is very high and is accompanied by lack of pressure to lose weight. We found that many people don’t care about losing weight, and it’s difficult to recruit them for a weight-loss program. Those who participate have higher attrition rate and lose less weight. We need to conduct behavioral analysis of weight management within the Latino culture to identify the factors contributing to obesity and the barriers to losing weight.

Moving from a clinical to a public health point of view, how do we address obesity? First, reduce poverty. If we raise the income level of Latinos, we’ll reduce obesity.

How do we do that? I don’t know. Second, the population approach is the only practical strategy. Clinically, we’ll make a small difference, and we obviously need to do that. But, again, if I were in charge of treating obesity in this country, I’d do things like bring physical education back into schools and require health education. I’d make sure that people had equal access to treatment and that fresh fruits and vegetables were more available and subsidized.

I’d definitely focus on prevention, working with children rather than adults. If we apply all our strategies among children, we might have a chance to reduce the prevalence of obesity and reverse its upward trend.❖
Dr Dietz: Let me begin with a comment. We’re beginning to understand from objective data that the availability of grocery stores in many impoverished neighborhoods is sparse. A study from Philadelphia suggests that mortality rates from nutritional diseases corresponds geographically to the density of supermarkets. How do we craft dietary or physical activity strategies in neighborhoods that aren’t safe or that lack access to affordable sources of food and fresh fruits and vegetables?

Dr Foreyt: Dr Carlos Poston was the senior investigator on a study in which we randomly picked a low-income neighborhood and a high-income neighborhood in Kansas City. We sent students to observe presence of sidewalks and grocery stores, items for sale in grocery stores and taverns, and every consumer item that we thought could possibly contribute to obesity. Of course, we also examined prevalence of obesity in each neighborhood. This prevalence was substantially higher in the low-income neighborhood than in the high-income neighborhood that had all the benefits of sidewalks, parks, and stores. We found that the environmental determinants of obesity were very strong in the low-income neighborhood.

So, how do you raise the income level and make more places to walk safely? That’s what all communities are facing, and it’s the issue I’m consulting with colleagues about at the Marshfield Clinic in Wisconsin. They invited to a symposium all sectors of the community: elected politicians, teachers, cafeteria and school employees, and parks and recreation staff. Coalitions were formed, each of which was given a small project—something that would make neighborhoods safer. Grassroots efforts, small steps at the local level, are the way to do it.

Dr Karanja: It’s also a political issue. Zoning rules are established by local governments, not by businesses. In Portland, Oregon, the Center for Health Research has formed an alliance with the Food Policy Council (a county organization that includes farmers and businesses) to present to the government our case for health. The government has the power to determine how sidewalks are maintained and where markets and parks are to be located.

Dr Dietz: Do you have focus group data explaining the difference in fruit and vegetable consumption on either side of the US-Mexico border?

Dr Foreyt: Information gathered by dietitians in West Texas towns along the border showed that price and accessibility were factors. Mexico has an excellent cuisine, but on that side of the border, people are very poor, many foods are inaccessible, and many people continually move to follow the crop harvest.

Dr Dietz: A viable strategy is to connect growers and institutions. Six of 12 states that receive funds for obesity work are agricultural states: North Carolina, Florida, Texas, California, Washington, and Michigan. We’ve begun to explore how to build connections between producers and schools. A barrier to this connection is that producers can’t deliver unprocessed produce to a school. We must consider innovative ways to make those connections work.

Community gardens are also a viable strategy, and they provide benefits through both physical activity and the produce grown.

Dr Karanja: Mexican Americans and African Americans are very embedded in their families. They do better when they’re in the systems they know and understand.

Dr Foreyt: And that means a system that includes grandmother, mother, child …

Dr Karanja: Exactly. To promote breastfeeding among Native Americans, we go to the great-grandmothers—women who have experience with breastfeeding. Most mainstream institutions focus on the individual person, and this approach doesn’t work very well with minority populations.

Dr Caplan: In what kind of settings might we most effectively care for minority populations?

Dr Foreyt: We must care for these people within the context of their own families or existing systems instead of trying to pull individual people into clinics.

Dr Dietz: What about churches?

Dr Karanja: Everybody descends on the black churches, and the ministers say, “I’m here to minister to people, not to advance your research agenda.” To make the effort more organic, some seminaries are building a health curriculum to create health ministries.

Dr Robinson: Two factors are important when working with communities. First, the organization must have a real presence in the community through outreach and by ensuring that members of targeted groups work as staff members delivering programs and fill positions of power or leadership.

The other key factor is building partnerships, a process which takes a lot of work. Programs can succeed in communities and neighborhoods only with the help of partnerships.
A good heart is better than all the heads in the world.

— Edward Bulwer-Lytton, 1803-1873, writer
I was a little surprised when I was asked to give this talk because I was trained in nutrition, not cultural sensitivity, and I’m from Africa, not the United States. However, the term ‘African American’ does have the word ‘African’ in it, so I agreed. I don’t consider myself an expert in cultural competence, so I hope that those of you who work in this area can correct me if needed. However, I have had a chance to work with the African-American population, and, for obvious reasons, I’m passionate about the care that African Americans receive.

I'd like to talk a little about morbidity and mortality among African Americans to explain why we are focusing on this population. The three leading causes of death in the US are coronary heart disease, stroke, and cancer.1 For each of these conditions, African-American men and women have a higher rate of death than do white men and women.2 Data are more sketchily gathered for other racial groups, and we'll certainly have a better overall picture once the data are collected. For now, though, we have comprehensive data for whites and blacks.

The Problem of Obesity in the African-American Population

When you examine the risk factors for coronary heart disease, stroke, and cancer, namely overweight, obesity, and inactivity, you find that they are more common among African Americans, particularly women.3,4 Although the prevalence of obesity is rising steeply for everyone,3 prevalence of class II and class III obesity is significantly higher in black women.4 In addition, some conditions appear earlier and in more severe forms in African Americans.5,6 For instance, hypertension and prostate cancer occur earlier in life and in more severe or aggressive forms in black men than in white men.5,6

I reviewed some of the National Institutes of Health strategic plans for addressing disparity in health between diverse racial populations, plans that include studying variation in patterns and biology of disease attributable to race. We are beginning to believe that clinical guidelines and delivery of routine care may need to be adjusted for different racial populations. Dr Arline Geronimus advanced the ‘weathering hypothesis’7 for African-American women, which suggests the deterioration of health earlier than would be expected from chronological age. For example, Dr Camara Jones has shown that the population distribution of blood pressure in black women is different compared with that of white women; blood pressure in 40-year-old black women is the same as in 50-year-old white women.8 If the weathering hypothesis holds true, it raises important questions about how we interpret data and create clinical guidelines for treatment and care.

Patterns of disease prognosis also differ between blacks and whites. For instance, incidence of breast cancer is lower in black women,9 but mortality rate is higher in black women than in white women.10 One explanation for this discrepancy is that black women seek care later,10 which may be true. But if, for example, black women’s bodies are aging earlier, would it make sense for them to start having mammograms at 30 as opposed to 40? If a black woman asks to have a mammogram at age 35, the response she receives may well be a mark of cultural competence on the part of the clinician, assuming that the weathering hypothesis may be in operation.

Sociodemographic and Philosophical Basis of African-American Culture

I’m not presenting diversity training in the traditional sense but am assuming that you understand the general principles and are ready to provide care to specific populations. One primary recommendation is that you learn the culture of the people coming to you for care. So I’ve put together some cultural, demographic, and social factors we need to understand to work with African Americans.

First, the African-American population in the US is growing faster than the white population but a little slower than Latino populations.11 It will double in 50 years and is increasingly diverse due to immigration of people from the Caribbean and Africa.11 Although the economic status of African Americans has improved, the majority still live in poverty.11 Only 33% of African-American households have an income above $35,000 compared with 70% of white households.11 Unemployment is high. Many African Americans are first-generation middle class11 and so lack the wealth that has been built by other Americans, primarily through home ownership. If an African-American grandfather couldn’t purchase housing in 1909 because of discriminatory mortgage lending practices, enough time has not yet elapsed to develop family wealth. More African-American children than white children have both parents working.11 Many poor families live in inner cities and are multigenerational, and, in some areas of the country, about 60% of African-American households are headed by women.11 African-American culture has African roots and has been shaped by the experience of...
They are the only racial group in America...Cultural Competence in the Prevention and Treatment of Obesity: African Americans...comfortable to talk about slavery. It influences African Americans, even though it's very un...

... many cultural scholars now believe that the melting-pot theory is impractical and may not be desirable.

did not immigrate here voluntarily, and, by their own accounts, they experience all forms of racism in small, continuous, and cumulative ways. African Americans are often stereotyped negatively as lazy, prone to violence, less intelligent, less patriotic, or dependent on white largesse. Consequently, some dehumanizing economic and noneconomic practices have been adopted within our society that greatly marginalize African Americans. During studies of obesity, we've been documenting presence of fast-food restaurants and liquor stores and lack of grocery stores around playgrounds and recreational areas in black neighborhoods. In my neighborhood, there are many corner stores with expensive, but nutrient-poor foods. Cigarette ads are placed three feet from the ground, and it's a question of who, other than children, is being targeted by these ads. One of the most important findings was in the Institute of Medicine report this year stating that good-quality care is still denied minority populations. In this case, the prototypical minority population studied was African Americans.

Evolving Thinking for More Effective Treatment

My recommendations assume that you practice the general principles of culturally competent care. It's important to understand African-American demographics, psychosocial experience, and the legacy of slavery and to begin to structure ways of relating to African-American patients that they interpret as respectful.

First, accept differences; many cultural scholars now believe that the melting-pot theory is impractical and may not be desirable. Perhaps differences are not a bad thing. Second, we must build bridges among institutions and communities of color, including African-American communities; because of past experience, African Americans don't trust mainstream institutions, including health care institutions. Providing health education is one strategy for building those bridges. African-American focus groups report a knowledge gap about health; and health education is highly valued in these communities. Institutional contributions to community campaigns, such as those to reduce cigarette ads, can help. Inviting community members to serve on advisory boards is another strategy, but one has to keep in mind that although they have a rich knowledge base about their communities and their life experiences, community members may be people of limited material wealth. Offering them paid advisory positions may be a better approach.

To not overemphasize how important it is to understand the influence of racial prejudice on the collective psyche of African Americans. We must create an atmosphere that allows staff and clientele to correct inappropriate behavior.

We must also rethink the assumption that African Americans are overly sensitive. When the injuries of racism accumulate, someone may eventually protest, and sometimes protest may occur for a reason that others might consider a minor inconvenience. For an African American, however, the issue may be substantial or perhaps has been faced five times that day. We all make mistakes, but there are some things that are patently offensive. It's important to work with staff and whomever else you need to in order to find out what patients experience in your practice setting.

Another recommendation is to understand the deeper aspects of African-American life. Spiritual life is central and keeps African Americans connected to a highly valued social network. For instance, "I had to go to the funeral of a church member" is a very valid reason for missing an appointment. Understanding how social networks are organized also allows you to use them, because they can be a great source of support for your African-American clients.

My last recommendation is to cultivate authenticity. African Americans often talk about 'being real.' This is different from just going through the professional motions. A young white woman from Arkansas led a lifestyle change intervention group of older black clients for us, and they loved her because they could see how much she cared. She had a passion for changing the world, and they saw it. You gain credibility for trying to be real.
After Dr Karanja’s presentation, she and the panel responded to questions from the audience:

Our Kaiser Permanente (Panorama City) population is perhaps 40% Latino and perhaps 5 to 10% African American. There is an impression that Latinos and African Americans are somewhat resistant to losing weight for cultural reasons. Would you agree?

Dr Karanja: When you ask overweight African-American or Latina women whether they’d like to lose weight, they respond as all other women would. They know when it hurts to go up the stairs. However, they may be distracted by life events. I don’t think it’s that simple—that they like being overweight.

Dr Foreyt: In schools, you could bring in elders and teach strategies in which tradition and culture make a big difference. I would always work with the youngest kids possible.

Returning to the clinical setting for a moment, what are the key competencies and skills for our health care professionals? If you had to pick two or three key principles or key activities for us to enhance within Kaiser Permanente, what would they be?

Dr Karanja: Cross-cultural communication would be the key one that I would emphasize. One that comes to mind is interpretation services. Providers speaking through an interpreter should speak directly to the client and not to the interpreter. Another principle is body language. Most non-European cultures are attuned to nonverbal cues a lot more. They've had to learn how to listen more by the actions and behaviors than by the words of the care provider. Communications with people from immigrant cultures benefit the most when you pay attention to body language. Newly integrated people tend to not know how to interpret the spoken word without attention to its context.

Is there anything particular about body language for African Americans, for instance?

Dr Karanja: African Americans are a bit more complicated in that they've had 400 years of "studying" Western ways of communicating. They’ve had to learn how to listen and act on the basis of what they hear; however, their long-term perceptions about interacting with a given provider may still be shaped more by the actions and behaviors than by the words of the care provider. Communications with people from immigrant cultures benefit the most when you pay attention to body language. Newly integrated people tend not to know how to interpret the spoken word without attention to its context.

References
Severe Obesity

Introduction

As one becomes severely overweight, lifestyle becomes compromised. Comorbid conditions increase, and life expectancy decreases. Mobility decreases. Social acceptance plummets. Depression mounts and quality of life diminishes. To compound the issue, severely obese people have a statistically low probability of losing weight.

Despite all the negative consequences, severe obesity in the United States has increased tremendously within the last several years. Almost 5% of our population is severely obese¹ and would qualify for bariatric surgery according to National Institutes of Health (NIH) guidelines.² One patient explained it to me this way: “In my house, every person has their own refrigerator. When we are happy, we eat. When we are sad, we eat. When we get up, we eat. When we go to bed, we eat."

Comorbid Conditions:
Type, Origin, and Prevention

Conditions associated with severe obesity are numerous and can be grouped into four general areas: metabolic, anatomic, degenerative, and neoplastic. Metabolic syndrome (also known as dysmetabolic syndrome, insulin resistance syndrome, or syndrome X) is now believed to affect 43.5% of people 60 to 85 years old. This syndrome includes the conditions of impaired glucose tolerance, Type 2 diabetes, dyslipidemia, nonalcoholic fatty liver, nonalcoholic steatohepatitis, cardiovascular disease, and hyperuricemia.³ Pancreatitis and cholecystitis increase with obesity. The syndrome of renal failure of obesity has been identified. Sleep apnea is significantly increased in the severely obese, as is asthma. Venous insufficiency, thrombophlebitis, and incidence of nonhealing venous stasis ulcers increase as weight increases. Pain from osteoarthritis of weight-bearing joints devastates many severely obese people. Esophageal and abdominal cancer increases with obesity. And the list continues.

A once-common belief—that obesity represents a self-inflicted condition arising from a person’s weakness—has been replaced by the etiology of obesity is complex and crosses the disciplines of basic science, clinical medicine, psychiatry, and behavioral medicine. We have learned that obesity is a precursor of many of the conditions we try to treat. If we could decrease or prevent severe obesity, we could ameliorate many of these conditions, which would extraordinarily affect quality of life and health care costs.

Treating Obesity

The NIH consensus report on overweight and obesity recommends bariatric surgery as an option that has had long-term success for patients with clinically severe obesity;⁵ no other long-term maintenance program was recommended. The NIH stated that more research was needed into programs with a multidisciplinary approach to obesity that use a wide variety of dietary, exercise, behavioral, and other strategies. Although workable weight loss strategies may exist for people who need to lose 20 to 50 lbs, no strategy aside from bariatric surgery achieves statistical significance for severely obese people. Furthermore, most severely obese people have tried multiple diets and have lost significant weight only to regain it—and more.

Nonsurgical Treatment of Severe Obesity

Before discussing bariatric surgery, which is statistically successful, let me review some nonsurgical approaches for severely obese patients. All multidisciplinary approaches should be viewed as pilot, or preliminary studies. Extensive further research is mandated.

Dr Vincent Felitti’s vanguard work⁶ on obesity as it relates to early childhood trauma is integrated into the Kaiser Permanente (KP) San Diego Positive Choice Program. An initial (20-week) very-low-calorie diet (VLCD) is paired with state-of-the-art interactive behavioral strategy. Group leaders use a playbook, developed and fine-tuned during the last 15 years, that includes standard behavioral approaches, dietary information, and exercise prescriptions. Participants in the Positive Choice Program also discuss early childhood trauma, in the second weekly group session. Theater arts therapists often lead the groups, and role-play...
Health systems

Special Feature

Surgical Treatment of Severe Obesity

This summary of treatment options brings us to bariatric surgery as an intervention for severe obesity. The outcome of this surgery varies between institutions and between procedures; however, a generally accepted statistic is that at least 50% of those who receive bariatric surgery maintain 50% of the excess weight loss for five years or longer.9 [Excess weight is defined as the difference between ideal weight and preoperative weight.]

The rate at which bariatric surgery is performed is rising steadily. In 2002 alone, the KP Northern California Region conducted 1800 bariatric surgery consultations and did 300 bariatric operations; the rest were referred to non-KP facilities at considerable expense. KP Northwest did approximately 100 bariatric operations, all by laparotomy (open procedure). Group Health Cooperative Puget Sound and KP Hawaii each did approximately 100 bariatric operations, many of which were laparoscopic procedures. After Al Roker of “The Today Show” had the procedure, our waiting list in KP Hawaii grew from 75 to 150 patients. I would like to believe this was partially because of our excellent, multidisciplinary pre- and postoperative programs.

Although about six bariatric surgical procedures are currently performed, Roux-en-Y gastric bypass is preferred throughout the US. Open procedures have been done for 20 years. Long-term outcome is statistically similar between open and laparoscopic procedures, except for increased risk of incisional hernia after an open procedure. Laparoscopic procedures are more difficult and require a skilled laparoscopist. Once the requisite skill level is achieved, complication rate is comparable between the two procedures, and hospitalization and recovery times are shorter with laparoscopy. Reduced morbidity after Roux-en-Y gastric bypass has been verified in many cohort studies.10-12

The 6 to 18 months after surgery is affectionately known by patients as “the honeymoon period.” Weight falls off without much effort. Portion size is greatly restricted by the surgically decreased gastric volume. Patients call the frequent absence of hunger a true miracle; changes in ghrelin metabolism may be the cause of loss of hunger in the early postoperative period. Later, the stomach stretches enough to allow one to eat more than necessary and still be comfortable. At this time, developing a new lifestyle is critical. As one of my patients said, “They did surgery on my stomach but not my brain.” Emotion-driven eating habits return as hunger returns and the stomach stretches.

However, as noted before, studies9 show that postoperatively a mean of 50% excess weight loss is maintained long term. This statistic is remarkable considering the preoperative degree of metabolic, clinical, and psychological morbidity in this high-risk popula-
tion. Again, we advocate use of multidisciplinary programs that work with patients pre- and postoperatively to foster long-term success.

The composition of KP bariatric surgery programs varies widely between regions. In the larger regions, demand for surgery is so high that little time is available to fine-tune program components. Performing 100 bariatric operations a year, our KP Hawaii program is fortunate to have created an excellent team. Patients see our medical bariatric consultants and behavioral specialist; attend structured dietary classes and weekly lay-facilitated, behaviorist-supervised support groups; work with a physical therapist; and have their comorbid conditions diagnosed and stabilized before surgery. Diabetic patients visit with diabetic educators to help decrease high blood glucose levels, thereby decreasing incidence of wound infection. We attend to sleep disorders, eating disorders, and cardiac problems. However, we do not automatically require orthopedic consultation when 400 lb patients complain of severe knee pain.

We expect all patients to demonstrate that they can adhere to a long-term program. We work with them for six months before surgery and expect them to lose weight preoperatively. In KP Hawaii, we do not specify a percentage of excess weight loss, but the KP Northern California Region recommends a 10% loss before surgery.

Regional programs are at different stages in developing long-term postoperative protocols. The trend is for indefinite metabolic follow-up of bariatric surgery patients with review of clinical laboratory test results every 6 to 12 months. Most programs offer group support indefinitely, and some require patients to visit a primary care provider or a bariatric medical specialist indefinitely. The general consensus is that this high-risk group requires long-term monitoring.

The NIH guidelines are purposely vague in several ways, because no evidence exists that compels them to be specific. The guidelines do not always specify criteria for defining comorbidity. For example, do we presumptively diagnose osteoarthritis in a patient who weighs 400 lb and whose knees hurt? Or does the patient require diagnostic evaluation and orthopedic consultation? However, we are not likely to see a new set of guidelines for another five years. The National Institute of Diabetes & Digestive & Kidney Diseases recently sent out a request for applications for grants to fund five research centers and one data collection site that will gather evidence to inform more definitive parameters for bariatric surgery. At least one KP region will submit an application to qualify as a research center.

The criteria for entry into our bariatric surgery program may differ from other KP regions; and although the NIH guidelines are intentionally vague, many KP programs are passionate about their entry criteria. Addressing the merits of each set of guidelines is beyond the scope of this discussion. As yet, neither KP nor the NIH has enough evidence to identify best practice. However, for the majority of KP regions, consensus criteria for bariatric surgery eligibility appear to be the following: body mass index (BMI) of 35 to 40 and a severe, life-threatening comorbid condition; or BMI of 40 to 50 and significant, although not life-threatening, comorbidity; or BMI greater than 50. Please note that this is a statement of general consensus, not a Program-wide standard. Qualifying comorbidity standards vary between KP regions.

**Predicting Long-Term Success**

What predicts successful long-term weight loss? McGuire et al13 looked at multiple attributes of patients before and after weight loss and weight regain. Coping skills did not change from baseline for those who lost weight or those who regained it. Instead, from the outset, those who lost weight had a different set of coping skills and showed less binge-eating behavior, less dietary disinhibition (lack of intake control while eating), and less depression. In addition, those who regained weight reported markedly less long-term participation in exercise programs. The authors13 found also that subjects who began regaining weight early had less long-term success.

Perri et al14 found that after completing treatment for addictive behavior, clients remained susceptible to relapse when faced with stressful circumstances. However, a program of extensive physical activity, peer-group engagement, and therapist intervention showed promise in promoting long-term weight loss success.

Cook15 described habits that predict success after bariatric surgery: personal accountability (ie, weighing oneself at least once per week); portion control; proper nutrition, including vitamins and hydration; and regular exercise. I would add three more habits—no snacking, eating breakfast, and eating slowly—to that list.

Many of the same issues any person may face can affect long-term success for bariatric patients. Family dysfunction; previous emotional, physical, or sexual abuse; and eating disorders must be addressed. Distressing life events occur. Families are still dysfunctional. Other forms of addiction may surface: drugs, alcohol, smoking, exercise, gambling, shopping, and others. Continued treatment of addictive behavior represents an ongoing struggle for many bariatric patients.
Finding reasons for an addiction goes far beyond behavioral modification strategies and perhaps beyond the scope of most weight loss programs as well. Dr Felitti would tell us that unless we solve these deeper issues, weight regain is highly likely.

Bariatric surgery patients have a slight long-term advantage over those who lose weight by other means, because they experience continuous, surgically induced malabsorption, and many are never able to eat as much at one time as before surgery. The metabolic consequences of dumping syndrome (gastrointestinal symptoms resulting from rapid gastric emptying) also favor long-term success of bariatric surgery patients compared with patients who do not have surgery. Although the long-term consequences of bariatric surgery give these patients a certain metabolic advantage over patients who lose weight without surgery, much of the premorbid disposition for both groups remains similar and needs to be addressed. Both require well-thought-out strategies for long-term behavioral, dietary, psychological, exercise, and group support.

**Care Management Institute Helping Severely Obese KP Members**

KP, through CMI, brought together members of our bariatric community from each KP Region into a Severe Obesity Workgroup that has met for more than a year. Under the direction of Trina Histon, we have completed our initial task of developing a source book of all regional protocols and program components. Now we are beginning to identify and collect key clinical indicators to illuminate important facets of bariatric surgery programs. We will be working with other CMI groups to develop nonsurgical programs to treat severe obesity. We are developing a primer for primary care providers to use as a guide for treating bariatric surgery patients. Later, we intend to develop a KP standard for bariatric surgery that we hope will gain national respect and recognition. Our position will be developed on the basis of the best existing evidence and, moreover, coordinated and well-documented experiences resulting from the full participation of all KP regions.

The rise in obesity in America is epidemic. The implications for HMOs and for use of the health care dollar in general are alarming. Severe obesity is a disease process gaining hold in a society which has become dependent on mechanical devices for transportation and pleasure. As the social fabric of our populations disintegrate, this dysfunction turns to food as a primary relationship. To cure this disease will take an extraordinary new breed of linked therapies. This article is only the beginning of this author’s exploration into what must be created … quickly!❖

**References**

7. Felitti VJ, Williams SA. Long-term follow-up and analysis of more than 100 patients who each lost more than 100 pounds. Perm J 1998 Summer;2(3):17-21.
soul of the healer

Christmas Face
aluminum stylet sculpture
By David Bovill, MD

This sculpture was created from discarded endotracheal tubing and its aluminum stylet, which are shown in inset.
More of Dr Bovill's artwork can be seen on the cover.
Implementing a Diagnostic Algorithm for Deep Venous Thrombosis

By Joel Handler, MD
Michael Hedderman, RN, MHP, CPHQ
Diana Davodi, CLS, ASCP, BS
Deborah Chantry, CLS, ASCP, BS
Curt Anderson, RT, CNMT
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Clinical contributions

Abstract

Context: An alternative to compression ultrasonography (CUS) examination of the lower extremity to diagnose deep venous thrombosis (DVT) is an equally effective and more cost-effective diagnostic algorithm using pretest clinical probability scoring, plasma D-dimer assay, and CUS.

Objective: To implement a DVT diagnostic algorithm in a Kaiser Permanente environment and assess patient outcomes and resource utilization.

Design: Prospective ten-month study in one area of 310,000 members surrounding one hospital.

Methods: A clinical probability score was determined for outpatients with symptoms suggestive of lower extremity DVT. Patients with a high score received immediate CUS. Patients with a low or moderate score had a rapid, quantitative, ELISA D-dimer assay; those with a positive assay result (>500 ng/mL) received CUS.

Main Outcome Measures: Venous thromboembolic events within three months of negative diagnostic evaluation for DVT. Change in utilization of CUS.

Results: Of 520 patients seen for possible DVT, 483 patients received a D-dimer assay; one false-negative D-dimer assay result and two false-negative CUS results (for patients with positive D-dimer assay) occurred. D-dimer negative predictive value was 99.5%. Utilization of CUS was reduced 47.6%.

Conclusion: A diagnostic algorithm using pretest clinical probability assessment, plasma D-dimer assay, and CUS can effectively diagnose lower-extremity DVT and can significantly reduce ultrasonography utilization.
mary care clinics and the emergency department, but some patients were referred from subspecialty and surgery clinics and from the obstetrics/gynecology departments.

**Setting**
The KP Orange County Service Area consists of a central hospital to which all outpatient CUS requests are directed. Although the membership of 310,000 patients is served by 12 satellite clinics and each clinic has laboratory services, the specific D-dimer assay and CUS are performed only at the central hospital.

**Pretest Probability Scale and D-dimer Assay**
The Pretest Probability Scale for Deep Venous Thrombophlebitis was based on a validated instrument with adaptations to enhance usability (Figure 1). The pretest probability sheet also incorporated key algorithmic instructions. Primary care physicians, registered nurse practitioners, and physician assistants received training via department meetings and e-mails. Probability scales were made available in all outpatient examination rooms and could be transmitted from the hospital laboratory electronically upon request. Key laboratory and ultrasonography personnel helped guide use of the diagnostic algorithm, and requests that did not follow process guidelines received individualized follow-up from a laboratory supervisor and a physician champion. In particular, providers were urged to use the algorithm only for patients who would otherwise receive CUS to diagnose DVT.

VIDAS D-dimer assay is a rapid, quantitative ELISA technique done using a compact automated immunoanalyzer (bioMerieux, Marcy-Etoile, France). A value of >500 ng/mL was considered a positive D-dimer assay result.

**Diagnostic Algorithm**
Before referring a study-eligible patient to the central hospital for CUS to diagnose DVT, the provider entered patient clinical data on the pretest probability scale (Figure 1). Patients with a high score received CUS immediately and were excluded from further analysis. Patients with a low or moderate score were given written instructional information and directed to the hospital laboratory for D-dimer assay; the medical assistant faxed the scoring sheet to the labora-

**Figure 1. Scoring sheet used in study protocol to assess clinical probability for deep vein thrombosis (DVT)**

| Patient Name: ____________________ |
| Patient MRN: ______________ |

**PRETEST PROBABILITY SCALE FOR DEEP VEIN THROMBOPHLEBITIS**

**OUTPATIENTS ONLY**

**Risk Factors:**

1. Active cancer: curative or palliative treatment initiated within 6 months ................... 2
2. Prior history of idiopathic VTE (or known primary thrombophilia) ........................... 2
3. Paralysis, paresis, plaster immobilization of lower extremity within 12 weeks ........................................... 1
4. Bedridden ≥ 3 days, or major surgery within 12 weeks ........................................... 1

**Clinical Signs:**

5. Entire symptomatic leg swollen (asymptomatic leg is not swollen) ........................... 2
6. Calf swelling > 3 cm compared to asymptomatic leg ........................................... 1
7. Pitting edema, greater in symptomatic leg ...................................................... 1
8. Alternative diagnosis as likely or greater than that of deep vein thrombosis (usually muscle pain or venous insufficiency) ........................................... -2

**NOTE:** Tenderness or Homan’s sign is nonspecific and receives NO points.

**Total Score: ____________**

<table>
<thead>
<tr>
<th>Affected Extremity(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left Leg</td>
</tr>
<tr>
<td>Right Leg</td>
</tr>
</tbody>
</table>

**High probability ≥ 3 Order compression ultrasound**

**Moderate probability 1-2 Order D-dimer**

**Low probability ≤ 0 Order D-dimer**

- Lab procedure ordering code for D-dimer (low and moderate probability):
- Ordering code for compression ultrasound (high probability only):
- For low and moderate risk patients, fax this form to Lakeview laboratory:
- Give attached instruction sheet (next page) to patient.

| Physician Name: ____________________ |
| Pager Number: ____________________ |

Test results will be given to the patient by the laboratory technician.
Implementing a Diagnostic Algorithm for Deep Venous Thrombosis

Results

The flowchart (Figure 2) shows disposition of patients through use of the diagnostic algorithm. Excluded from analysis were six patients with high probability scores, 30 patients for whom no scoring sheet was received, and one patient whose follow-up occurred out of the study area. During the ten-month study, 483 patients received D-dimer assay, and DVT was diagnosed in 28 of these patients (DVT prevalence, 5.6%). During the three-month follow-up period, one of the 220 negative D-dimer assay results proved false, and two patients with positive D-dimer results and negative initial CUS results had DVT diagnosed. D-dimer assay diagnostic performance is summarized in Table 1. Negative predictive value of the D-dimer assay was 99.5%, and the positive predictive value was 9.8% with sensitivity of 96.3% and specificity of 47.9%.

The one false-negative D-dimer assay was for a patient who had received four months of warfarin therapy for a previous episode of idiopathic DVT, diagnosed by CUS before the current diagnostic algorithm was initiated. Two months after completing warfarin therapy and after initiation of the algorithm, the patient was seen again for leg pain. The pretest probability was scored inaccurately as zero despite the history of idiopathic DVT and presence of new leg findings, and D-dimer assay results were negative (415 ng/mL). Five days later, the patient returned and had thigh pain; physical examination showed tightness and tenderness without edema in this area, and CUS revealed thrombosis from the calf to the common femoral vein.

Two patients had positive D-dimer assay results and negative CUS results but had DVT diagnoses during the three-month follow-up period. One patient ought to have received a high probability score because of ongoing chemotherapy for adenocarcinoma from an unknown primary site but instead received a low score. At the initial visit and at a four-month follow-up visit, this patient’s D-dimer assay results were positive (>1000 ng/mL) and CUS results were negative. The result of a second follow-up CUS (two months, 22 days after the first follow-up) was positive for DVT. The second patient was also misscored as having zero probability of DVT despite a recent history of idiopathic DVT and presence of new leg swelling. This patient’s D-dimer assay result was positive (>1000 ng/mL), and the CUS result was negative for DVT.
Two months later, the result of follow-upCUS was positive for DVT.

Initiation of the diagnostic algorithm decreased utilization of CUS for diagnosing lower-extremity DVT by 47.6% (Figure 3). Significantly higher disease prevalence at moderate probability scores was found, thus validating the scoring format modified from the literature: of 228 patients with low scores, 7 (3.1%) had positive CUS results; of 255 patients with moderate scores, 19 (7.5%) had positive CUS results (p = .03).

Ninety-eight patients with moderate pretest probability score had a negative D-dimer assay result.

Discussion

Diagnosing Deep Venous Thrombosis

Venography historically had been the standard procedure to rule out presence of lower-extremity DVT. A 1997 study by Hull6 found recurrent DVT in two (1.3%) of 160 patients who had previously negative venography results. Because of the inherent difficulty of an invasive approach, and because technically adequate venograms cannot be obtained in 10% to 20% of subjects,7 an alternative diagnostic strategy for detecting DVT in outpatients using serial CUS8 became widely accepted. More recently, a trend toward single CUS has become popular.

A meta-analysis pooled results from three prospective studies which assessed serial CUS to diagnose DVT.8 After receiving an initial negative CUS, anticoagulant therapy was withheld, and patients received one or two follow-up CUS examinations during seven or eight days. During three months of follow-up, venous thromboembolic complications developed in 15 (0.9%) of the 1753 pooled patients,8 comparable with the percentage reported in the Hull study. In a study by Cogo et al,9 a single follow-up CUS at seven days was equally effective and safe compared with strategies using more frequent CUS.

Sluzewski et al found that none of 118 outpatients with a negative initial CUS result had a positive CUS result on day seven.10 At three-month follow-up, DVT recurrence was 1.3%,10 identical to recurrence rate of the Hull study group.6 Although the sample size was small, some justification for a single CUS approach was provided.

Using phlebography as a reference standard, ultrasonography has 97% sensitivity and specificity for diagnosing proximal DVT in a symptomatic leg but is insensitive to calf thrombi, which may later propagate.7 Variable propagation rates (converting negative CUS results to positive at follow-up examination) have been reported. One large study reported that 5.3% of patients who had negative initial CUS results had positive serial follow-up CUS results.11 A second large study found that the yield of positive results at follow-up CUS was 3%,9 and a third study found no positive CUS results at seven-day follow-up and 1.3% of CUS examinations positive at three-month follow-up.10 These low propagation rates are supportive of a diagnostic process involving a single CUS to rule out DVT. There is also evidence for an alternative sequence after initial negative CUS, targeting a follow-up CUS only for patients with a positive D-dimer assay result.12 The latter approach is less attractive because of the high rate of false positive assays.

A noninvasive algorithm to rule out DVT described by Perrier uses pretest clinical probability assessment combined with D-dimer assay.13 Ultrasonography was not required for 27% of study patients when they had both a disease probability score less than high and a negative D-dimer assay result; follow-up ultrasonography was also not required for patients who had a probability score less than high, a positive D-dimer assay result, and a negative CUS result.13 Because of varying pretest disease probability, a negative D-dimer assay result alone does not provide sufficient information to withhold initial ultrasonography safely for all patients.14 Likewise, without initial disease probability assessment, a patient with a positive D-dimer result and an initial negative ultrasound result probably still requires follow-up CUS examination.15

In the Perrier study that used VIDAS rapid quantitative ELISA D-dimer assay,13 the negative predictive value of the assay was 99.9%. Using the same apparatus, made available to most KP Southern California Medical Centers via regional procurement, and replicating the Perrier algorithm, we achieved a negative predictive value of 99.5%. Of patients with signs of possible DVT, 47.6% did not receive CUS, because they each had a pretest clinical probability score less than high (low or moderate) and a negative D-dimer assay result.

In the Perrier study, only two patients with high pretest clinical probability and a positive D-dimer assay result had a negative CUS result, both of whom had positive venography results.13 However, dis-

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Table 1. D-dimer assay diagnostic performance in 483 patients with signs of deep venous thrombosis (DVT)*

<table>
<thead>
<tr>
<th>D-dimer assay results</th>
<th>DVT positiveb</th>
<th>DVT negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive (n = 263)</td>
<td>27</td>
<td>237</td>
</tr>
<tr>
<td>Negative (n = 220)</td>
<td>1</td>
<td>219</td>
</tr>
</tbody>
</table>

*Patient pretest clinical probability scores were low (228) or moderate (255).

†Although clinical signs for all forms of venous thrombotic events were monitored during three-month follow-up, DVT was the only type of thrombotic event diagnosed in these patients.
ease prevalence in the high-probability group for that study was 96%\textsuperscript{13} compared with disease prevalence of 56%\textsuperscript{16} and 75%\textsuperscript{5} for high-probability groups in other studies. In our study, patients with high pretest clinical probability received immediate CUS but did not have mandatory follow-up CUS or venography if CUS result was negative. Although we could not precisely determine disease prevalence in our high-probability group because of small sample size, prevalence was estimated at 20%. Therefore, we were able to validate the Perrier algorithm for excluding the diagnosis of DVT with extreme safety by using a system incorporating pretest clinical probability assessment and VIDAS D-dimer assay.

**Choosing the D-dimer Assay**

For a low-disease-prevalence population, such as ours, the question arises as to whether a more rapid but less sensitive D-dimer assay would be equally safe to use. Our DVT prevalence of 5.8% is much lower than the 20% to 30% prevalence from other studies.\textsuperscript{9,11,17} Compared with VIDAS D-dimer assay sensitivity of 96\%, specificity of 75\%,\textsuperscript{17} and the one hour required to run the test, the SimpliRED D-dimer assay (AGEN Biomedical Limited, Brisbane, Australia) has sensitivity of 86\%, specificity of 57\%,\textsuperscript{16} and can be performed at the bedside in five minutes. A combination of pretest probability assessment and SimpliRED D-dimer assay has been used, with high sensitivity, to rule out DVT in a low-disease-prevalence population.\textsuperscript{18,20} but not in a population with moderate disease prevalence.

We prefer the VIDAS D-dimer to the SimpliRED assay for the following reasons: 1) On the basis of the Perrier study results, we could safely eliminate initial CUS for the 98 patients in the moderate pretest probability group who had a negative D-dimer assay result. 2) Our false-positive assay rate was an acceptable 53.3%; cutting that rate in half by using the SimpliRED assay would not compensate for the increased number of moderate probability patients that would require CUS. 3) A more sensitive assay provides an additional safety margin.

Another family of D-dimer tests, the latex agglutination assay, has sensitivity (83\%) and specificity (68\%) values that are closer to ELISA assay than to whole blood agglutination,\textsuperscript{22} takes only 30 minutes to do, and has been validated to evaluate patients with intermediate probability of DVT.\textsuperscript{16} However, the experience with latex agglutination assay has not been uniformly rewarding.\textsuperscript{22}

**Study Limitations**

Results of this study may not be generalizable to patient populations with higher prevalence of DVT. Although disease prevalence was higher for patients in our moderate-probability group (7.5\%) than in the low-probability group (3.1\%) using our modified Wells’ pretest probability score sheet, our moderate group prevalence was intermediate between Wells’ low group (3\%) and moderate group (17\%).\textsuperscript{5}

Our moderate-probability assessment yielded relatively low DVT incidence, but such an outcome might not be generalizable to other KP populations; for example, analysis of identical patient history evaluation forms found disparate prevalence of coronary disease for outpatients at KP Santa Clara compared with Stanford Palo Alto Clinics.\textsuperscript{23}

Patient recruitment for this study occurred almost entirely from primary care and the emergency de-
Implementing a Diagnostic Algorithm for Deep Venous Thrombosis

Recent Changes in the Algorithm

Data from a KP Orange County Service Area project assessing D-dimer levels in normal pregnancy showed that 3 (50%) of 6 women at less than 20 weeks' gestation had negative D-dimer assay (<500 ng/mL), a result consistent with our entire study population, but that only 3 (12%) of 25 women after 20 weeks' gestation had negative assay (JH, unpublished data, May, 2002). Because that observation confirmed data from bioMerieux that described a 3- to 4-fold rise in D-dimer levels during the course of normal pregnancy (which could lead to a high rate of false-positive results), we decided to exclude from our algorithm women who were more than 20 weeks pregnant.

No patients were referred directly from the oncology clinic; these patients receive immediate CUS examination.

Effective Cost Management

After introduction of this algorithm, utilization of CUS was reduced 47.6%, without excessive D-dimer assay utilization. Our ultrasonographers and radiologists, who had been performing a large number of lower-extremity CUS examinations with negative results, were thankful for the change.

Our experience thus far has been that nearly 50% of eligible patients have been excluded from further evaluation. Given cost estimation of single-leg CUS of $200 and D-dimer assay performance of $70, prorated 12-month savings for our Orange County population was $41,000. Many areas perform bilateral CUS for all requisitions and higher savings would consequently be expected.

Because it would not take a significant increase in orders for D-dimer assay, which has a high false-positive rate, to lead to increased ultrasound requisitions, we instruct our providers to use the algorithm only when they consider ordering lower-extremity CUS to diagnose DVT. We also insist that the pretest probability scoring sheet is faxed to the central hospital laboratory for all such patients. Although studies show that low-probability patients can be identified whether the clinical assessment was empirical or done on the basis of prediction rules,6 we prefer and have validated a user-friendly scoring sheet. Provider interviewing has shown that many patients who score at low or intermediate level would have otherwise been empirically rated as high probability. Feedback has led us to incorporate the coaching instruction that “tenderness, or Homans' sign, is nonspecific and receives no points.”

Conclusion

Introduction of a new diagnostic algorithm for DVT led to 47.6% reduction in lower-extremity ultrasonography with a 99.5% negative predictive value during ten months of ongoing usage. This method incorporates user-friendly assessment of pretest disease probability along with rapid, quantitative D-dimer assay.

Acknowledgments

Jean Marie Lien, MD, recruited patients for analysis of D-dimer assay results in normal pregnancy.

Veronica Levy, MD provided ultrasonography cost modeling information for the Southern California Permanente Medical Group.

References


7. Weinmann EE, Salzman EW. Deep-

Expense

Poor quality is our most costly expense item.

— Dr Paul Fitzgibbon, one of the founding physicians of The Permanente Medical Group – quoted in a report to the TPMG Executive Committee – 1964
Evidence-Based Clinical Vignettes from the Care Management Institute:

Coronary Artery Disease

Introduction
Coronary artery disease (CAD) is the leading cause of death and of premature, permanent disability in Americans 65 years and older. According to the March 2002 Kaiser Permanente Care Management Institute (CMI) Cardiovascular Outcomes Report, more than 150,000 Kaiser Permanente (KP) members, representing 2.8% of all KP members 18 years and older, have CAD. Of these patients, more than half have had previous myocardial infarction or have had coronary artery procedures such as bypass graft surgery, angioplasty or stenting. In the year 2000 alone, nearly one in ten KP patients with CAD who were 45 years and older had percutaneous coronary intervention (PCI), or coronary artery bypass grafting. The report also showed that nearly one in four patients who had a myocardial infarction (MI) experienced a recurrent MI or other major coronary event during the next two years. Great opportunity exists to reduce the high rate of CAD-related morbidity and mortality, and a rich body of evidence supports various interventions that can significantly reduce adverse outcomes for our patients with CAD.

Beginning in mid-2001, CMI sponsored development of “Evidence–Based Guidelines for the Secondary Prevention of Coronary Artery Disease” (CAD Guidelines), which was published in July 2002. Members of the guideline committee are listed in Table 1. The following clinical vignette highlights some of the key clinical guidelines.

Case Example
Mary was a 58-year-old woman who had been in good health generally. She did not exercise regularly and was about 20 pounds (9 kg) over her ideal weight, but her diet was relatively low in fat, she did not smoke, and she had no history of diabetes. She had been taking estrogen and progesterone hormone replacement therapy (HRT) for six years. Her recent blood lipid panel results were as follows: total cholesterol, 240 mg/dL (6.20 mmol/L); high-density lipoprotein cholesterol (HDL-C), 40 mg/dL (1.03 mmol/L); and low-density lipoprotein cholesterol (LDL-C), 150 mg/dL (3.88 mmol/L). She was taking hydrochlorothiazide (HCTZ) to treat hypertension, and her mother had experienced an MI at 60 years of age. Mary was seen at the emergency department for a prolonged episode of left shoulder and upper back pain which had begun after dinner that evening. The emergency department physician knew that women may have atypical symptoms during an acute coronary syndrome; Mary’s heart was therefore evaluated as a possible source of her pain. Her electrocardiogram showed changes which indicated an acute, inferior wall MI. A subsequent angiogram showed a moderately narrowed right coronary arterial lumen, which was successfully treated with angioplasty and stent placement.

Table 1. Coronary Artery Disease Guidelines Workgroup, KP Care Management Institute

<table>
<thead>
<tr>
<th>Project Management Team:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michelle Wong, MPH, MPP, CMI</td>
</tr>
<tr>
<td>Leslee Budge, MBA, CMI</td>
</tr>
<tr>
<td>Rick Wise, MD, Northwest</td>
</tr>
<tr>
<td>Victor Benson, MD, Southern California</td>
</tr>
<tr>
<td>Eleanor Levin, MD, Northern California</td>
</tr>
<tr>
<td>John Merenich, MD, Colorado</td>
</tr>
<tr>
<td>William Caplan, MD, Care Management Institute</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Committee Members:</th>
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</thead>
<tbody>
<tr>
<td>Adria Beaver, RN, Northern California</td>
</tr>
<tr>
<td>Patricia Casey, MSN, Mid Atlantic States</td>
</tr>
<tr>
<td>Diane Ditmer, Pharm D, Northwest</td>
</tr>
<tr>
<td>Alan Golston, MD, Group Health Cooperative of Puget Sound</td>
</tr>
<tr>
<td>Coraleen Grothaus, Hawaii</td>
</tr>
<tr>
<td>Jodi Hansgen, Pharm D, Georgia</td>
</tr>
<tr>
<td>Alison Miyasaki, RN, Hawaii</td>
</tr>
<tr>
<td>Art Resnick, MD, Group Health Cooperative of Puget Sound</td>
</tr>
<tr>
<td>Cathlene Richmond, Pharm D, Northern California</td>
</tr>
<tr>
<td>Kathy Ryman, MD, Southern California</td>
</tr>
</tbody>
</table>

Richard Wise, MD, (top) is a physician in Internal Medicine at the Beaverton Clinic in Portland, OR. He is Cardiovascular Steering Committee Cochair, the CMI Physician Implementation Manager for cardiovascular diseases in KPNW, CMI Lead Physician for CAD, and an Assistant Clinical Professor of Medicine at OHSU. E-mail: rick.wise@kp.org.

Michelle Wong, MPH, MPP, (right) is the Care Management Consultant for Diabetes at KP Care Management Institute. She co-facilitated the development of CMI’s Coronary Artery Disease, Secondary Prevention guidelines. E-mail: michelle.wong@kp.org.

Leslee Budge, MBA, (left) is practice leader for cardiovascular disease for KP Care Management Institute. She co-facilitated the development of CMI’s Coronary Artery Disease, Secondary Prevention guidelines. E-mail: leslee.budge@kp.org.
Because she now had a diagnosis of CAD, Mary was a candidate for interventions that are effective for secondary prevention of CAD.

In the Summer 2002 issue of The Permanente Journal, Jill Bowman and Dr Jim Dudl provided an excellent overview of evidence-based interventions that significantly reduce cardiovascular risk in patients who have diabetes mellitus. Although Mary did not have diabetes, most of those interventions are equally applicable to her. We review some of those interventions and explore some issues that are particularly germane to patients with CAD.

**Antiplatelet Therapy**

Mary had a stent placed in her right coronary artery. The CAD Guidelines state that clopidogrel and aspirin should be taken daily for one month on the basis of the findings of Leon et al. If a rash develops from clopidogrel, ticlopidine should be substituted. After one month, Mary should continue indefinitely to take daily aspirin alone. Recent data (reported after the CAD Guidelines were published) suggest that Mary may benefit from continuing to take clopidogrel and aspirin for at least one year. The CREDO trial demonstrated that patients who had PCI and who continued to take clopidogrel for one year significantly reduced their risk of death, MI, or stroke compared with patients who continued to take clopidogrel for just one month after interventions (absolute risk reduction [ARR], 3%; number needed to treat [NNT] to prevent an event in one year, 33).

**What is the preferred aspirin dosage?** The recent Antithrombotic Trialists’ Collaboration meta-analysis indicates that dosages ranging from 75 mg to 325 mg daily are effective and that lower dosages (75 to 150 mg daily) are as effective as higher dosages (the lowest commercially available dose in the US is 81 mg). The use of daily aspirin after acute MI reduces the relative risk of a serious vascular event (MI, stroke, or death from a vascular event) within the first month by 30% (NNT to prevent one event in the first month, 26). Long-term aspirin therapy for patients who have had an MI reduces relative risk of a serious vascular event by 25% (NNT to prevent an event in two years, 28).

**What if Mary has a comorbid condition, such as asthma, congestive heart failure, or diabetes?** In their Cochrane review, Salpeter et al found minimal decrease in forced expiratory volume in one second after a single dose of a cardioselective, non-ISA beta-blocker in patients with mild to moderate asthma. This decrease attenuated during a few weeks of continued therapy; the authors therefore concluded that beta-blockers could safely be prescribed to patients with controlled mild to moderate asthma. Because it is not cardioselective and was not examined in the meta-analysis, propranolol should not be prescribed for asthmatic patients. Beta-blockers should not be prescribed for patients with severe or poorly controlled asthma.

The CMI Heart Failure Guidelines group recently reviewed use of beta-blockers in patients with heart failure. The CMI Guide to Heart Failure Management was published in the Winter 2003 issue of The Permanente Journal along with clinical vignettes by Dr Anthony Steimle. Patients with CAD and heart failure due to left ventricular systolic dysfunction should receive a beta-blocker (metoprolol, bisoprolol, or carvedilol)

| Table 2. Beta-blockers with and without intrinsic sympathomimetic activity (ISA) |
|----------------------------------|----------------------------------|
| No, or mild ISA | With ISA |
| acebutolol atenolol betaxolol bisoprolol carvedilol labetalol metoprolol nadolol propranolol sotalol timolol |
| alprenolol oxprenolol pindolol practolol xamoterol |

The CMI Heart Failure Guidelines group recently reviewed use of beta-blockers in patients with heart failure. The CMI Guide to Heart Failure Management was published in the Winter 2003 issue of The Permanente Journal along with clinical vignettes by Dr Anthony Steimle. Patients with CAD and heart failure due to left ventricular systolic dysfunction should receive a beta-blocker (metoprolol, bisoprolol, or carvedilol).

**Beta-Blockers**

Mary should take a beta-adrenergic blocking agent (beta-blocker). Two meta-analyses showed the protective effect of long-term beta blockade after MI. Although studies vary regarding duration of beta-blocker therapy, long-term use (up to 48 months in some studies) has reduced total incidence of mortality or infarction by approximately 25% (NNT to prevent one death per year, 84; NNT to prevent one reinfarction per year, 107). The CAD Guidelines recommend initiating beta-blocker therapy within hours of acute MI because the studies that showed long-term benefit initiated beta-blocker therapy in the immediate postinfarction period.

**What beta-blocker should Mary take?** Beta-blockers without intrinsic sympathomimetic activity (ISA) (such as atenolol, metoprolol, or bisoprolol) should be used, because evidence suggests that beta-blockers with ISA do not significantly reduce mortality after MI. Table 2 lists beta-blockers with and without ISA.

**What if Mary is intolerant of aspirin or has an aspirin allergy?** If Mary is unable to take aspirin, the CAD Guidelines recommend substituting 75 mg of clopidogrel daily. Clopidogrel is not otherwise favored over aspirin. Although clopidogrel is as effective as daily aspirin, the CAD Guidelines committee believed that the risk of adverse effects (including rash, diarrhea, and a slight risk of thrombotic thrombocytopenic purpura) as well as the higher cost (compared with aspirin) should relegate clopidogrel to second-line therapy.

Two meta-analyses showed the protective effect of long-term beta blockade after MI.
unless otherwise contraindicated, because these agents reduced risk of mortality (NNT, 23 per year) or hospitalization (NNT, 25 per year).11

Beta-blockers should be considered for secondary prevention of cardiovascular disease in patients with diabetes. Evidence suggests that beta-blockers may significantly reduce cardiac mortality (NNT, 29 in three years) in diabetic patients.13

If, in the future, Mary needs a major surgical procedure, should she continue to take beta-blockers? Yes. Even if Mary stopped taking beta-blockers at some point after her first coronary event, she should take them during the perioperative period. Mangano et al14 showed that administration of atenolol perioperatively (during the hospital stay or for up to seven days) significantly reduced risk of subsequent vascular events in a broad population of patients with, or at risk for, CAD who had inpatient procedures that required general anesthesia. Vascular-event-free survival at one year was significantly greater in the group receiving atenolol (92%) compared with the untreated group (78%) (NNT, 7). Table 3 lists indications for perioperative beta-blocker therapy.

**Lipid Management**

The CAD Guidelines did not address the topic of lipid management. KP Southern California’s dyslipidemia guidelines are completed and published in their guidelines handbook, also available on their Web site, linked to from the Permanente Knowledge Connection (PKC) Web site.15 The guidelines recommend that all persons with CAD receive statin therapy, regardless of their baseline LDL-C and that patients with a ten-year risk of a cardiovascular event ≥25% be treated to a target LDL-C level of less than 100 mg/dL (2.59 mmol/L).15

The recently published Heart Protection Study (HPS)16 makes a strong case for prescribing statins for all patients with CAD, including patients with a relatively low baseline LDL-C level. In the trial, 35% of treated patients had a baseline LDL-C level of less than 116 mg/dL (3.0 mmol/L) and were treated to an average LDL-C level of 69 mg/dL (1.8 mmol/L). This group had a significantly reduced risk of subsequent vascular events compared with the placebo group; the magnitude of risk reduction was similar to that of patients who began the study with a higher baseline LDL-C value, and a minimum baseline LDL-C level (below which no significant benefit existed) was not found.16 The trial demonstrated overall 24% reduction in occurrence of a major vascular event for five years in patients treated with simvastatin compared with placebo (NNT, 18). After adjusting for patient compliance in the treatment group and for other statin use in the placebo group, the NNT for patients with prior MI was about ten, regardless of baseline lipid level.

Mary should receive statin therapy, preferably lovastatin, at a dosage of 40 mg per day. A lipid panel should be repeated with alanine aminotransferase (ALT) levels checked in about two months, and the dosage of lovastatin should be increased to 80 mg per day if the LDL-C level remains higher than 100 mg/dL (2.59 mmol/L). If the LDL-C level remains higher than 100 mg/dL after two more months, a prescription of simvastatin at 80 mg per day should be considered.

**Table 3. Indications for perioperative beta-blocker therapy in patients receiving inpatient procedures that require general anesthesia**

<table>
<thead>
<tr>
<th>Indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Patients taking long-term beta-blocker therapy</td>
</tr>
<tr>
<td>• Patients with a diagnosis of CAD or peripheral vascular disease (PVD)</td>
</tr>
<tr>
<td>• Patients who have two or more of the following CAD risk factors:</td>
</tr>
<tr>
<td>Age &gt;65 years</td>
</tr>
<tr>
<td>Hypertension (treated or untreated)</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
</tr>
<tr>
<td>Hypercholesterolemia (total cholesterol &gt;240 mg/dL [6.20 mmol/L], or any</td>
</tr>
<tr>
<td>patient being treated for hypercholesterolemia)</td>
</tr>
<tr>
<td>Current smoker or quit smoking within last six months</td>
</tr>
</tbody>
</table>

**Angiotensin-Converting Enzyme (ACE) Inhibitors**

The committees that developed the CMI Guidelines for CAD, diabetes, and heart failure have reviewed use of ACE inhibitors in patients with different levels of risk for a cardiovascular event. In patients who have CAD with preserved left ventricular function (such as our patient, Mary), ACE inhibitors should be prescribed long term, unless they are contraindicated.

The landmark HOPE trial17 showed that in patients 55 years and older who have or are at high risk for having CAD but who have normal left ventricular dysfunction or heart failure, the ACE inhibitor ramipril reduced the risk of MI, stroke, or cardiovascular death by 22% (absolute risk reduction (ARR), 3.7%; NNT to prevent an event for 4.5 years, 27). Patients who have acute MI benefit from receiving ACE inhibitors promptly. Ambrosioni18 showed that administering zofenopril (a short-acting ACE inhibitor similar to captopril) within 24 hours of acute MI and continuing zofenopril therapy for six weeks significantly reduced first-year post-MI mortality rate (ARR, 4.2%; NNT, 24). Additionally, van den Heuvel19 showed that administering captopril (25 mg, 3 times daily) within 24 to 48 hours after acute MI and...
Calcium channel blockers have not shown reduced mortality for patients who have had an MI or for patients with stable or unstable angina ...

Calcium Channel Blockers

Calcium channel blockers have not shown reduced mortality for patients who have had an MI or for patients with stable or unstable angina and thus are not recommended as first-line therapy or monotherapy. If Mary could not take beta-blockers (eg, if she had severe asthma) data suggest that a nondihydropyridine calcium channel blocker (verapamil or diltiazem) may be more effective than placebo in reducing incidence of nonfatal MI (but not mortality) in patients with CAD. However, in patients who have left ventricular systolic dysfunction, nondihydropyridine calcium channel blockers should not be used, because the risk of death or a cardiac event increases. Immediate-release formulation of nifedipine should not be used in any patient with CAD, because the risk of cardiovascular mortality increases. For patients who have CAD and hypertension, the consensus of the Guidelines group was that use of sustained-release formulations of nifedipine may be considered but only if use of an ACE inhibitor, beta-blocker, and diuretic, in any combination, fails to control blood pressure.

Oral Anticoagulant Therapy

Mary had an uncomplicated MI and is tolerating daily aspirin well. The CAD Guidelines recommend, on the basis of a meta-analysis by Anand and Yusuf, that Mary continue to take aspirin rather than change to oral anticoagulant therapy. In some situations, however, oral anticoagulant therapy (warfarin) is appropriate instead of aspirin.

Atrial fibrillation: Warfarin should be used indefinitely at a target INR (international normalized ratio) between 2.0 and 3.0. Evidence supports use of warfarin to prevent stroke in patients with CAD: warfarin is significantly more effective than aspirin for reducing risk of stroke (NNT per year to prevent stroke using warfarin compared with aspirin, 77).

Left ventricular thrombus or anterior infarction: The CAD Guidelines group found insufficient randomized-trial evidence to recommend use of warfarin to prevent stroke in post-MI patients who have left ventricular thrombus or anterior myocardial infarction. However, because a number of small observational studies suggest increased risk of embolic stroke in such patients, consensus of the group was that warfarin should be prescribed for post-MI patients who have left ventricular thrombus and that after consultation with a cardiologist, use of warfarin should be considered in patients who have a large anterior MI.

Potential benefit of warfarin must be balanced against increased risk of bleeding. In the Anand and Yusuf meta-analysis, risk of major bleeding in patients taking oral anticoagulants was six to eight times that of patients taking placebo (absolute risk increase [ARI], 4%) and two to three times that of patients taking aspirin (ARI, 1.5%). In patients when considered necessary, low-dose aspirin therapy (80-100 mg per day) combined with warfarin therapy may not increase risk of bleeding compared with warfarin therapy alone. However, a cardiologist should be consulted before using warfarin.
using combined aspirin and warfarin therapy, because the CAD Guidelines group did not find evidence or formulate guidelines for combination therapy.

**Hormone Replacement Therapy**

Mary completed menopause about six years earlier. She had been taking estrogen and progesterone HRT, partly for symptoms of menopause but primarily because at the time, HRT was believed to decrease risk of CAD. The CAD Guidelines group found good evidence that HRT does not reduce the rate of coronary heart disease (CHD) and may increase the risk slightly, especially in the first year of treatment. The HERS and HERS II trials studied over 2000 postmenopausal women who had CAD and compared placebo with treatment using combined conjugated equine estrogen and medroxyprogesterone during four years (continuing an additional 2.7 years in HERS II). The treatment group experienced more vascular events than did the placebo group in the first year, but fewer events than the placebo group in the fourth and fifth years. Long-term use of HRT did not reduce overall risk of fatal or nonfatal coronary disease events. In additional, the Women's Health Initiative (WHI) study of more than 16,000 women, although not specifically studying women with CAD, found that the group taking HRT experienced, for each 10,000 person-years, seven CHD events and eight strokes more than the group taking placebo.

Mary should be advised to stop taking HRT, because her primary reason for continuing this treatment was to prevent cardiovascular events. The CAD Guidelines group could find no evidence to support tapering the dose compared with stopping immediately. If Mary had never taken HRT and was considering doing so for symptoms of menopause, she should be counseled about the small increase in absolute risk for CHD events and stroke, especially during the first year or two of treatment.

**Antioxidant Supplements**

During a follow-up visit with her primary clinician, Mary noted that a friend of hers had told her to take supplements of vitamins E, C, and beta-carotene to reduce her risk of another heart attack. Is this advisable? The CAD Guidelines group made the following evidence-based recommendations:

**Vitamin E**: Vitamin E is not recommended because it does not reduce incidence of major cardiovascular events in CAD patients. The three largest randomized controlled trials to date, which include over 41,000 patients, found no significant reduction in fatal or nonfatal cardiovascular events.

**Beta-carotene**: For patients with CAD, beta-carotene supplementation should not be recommended, because it has not been found beneficial and may increase risk of fatal CHD. Beta-carotene was part of the antioxidant treatment arm in the Heart Protection Study, which showed no benefit for reducing cardiovascular events. In addition, a study by Rapola et al. showed that use of beta-carotene supplements by smokers who had previous MI significantly increased their risk of death from coronary disease (relative risk, 1.75) compared with risk in similar patients who took placebo.

**Vitamin C**: The CAD Guidelines group did not find any relevant randomized controlled trial that studied use of vitamin C in patients with CAD.

On the basis of CAD Guidelines, Mary was advised not to take antioxidant vitamins for the sole purpose of reducing her risk of a cardiovascular event.

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### Table 4. Consensus-based risk factor reduction and lifestyle modification recommendations for patients with coronary artery disease (CAD)

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screening for depression should be strongly considered in first three months after acute MI.</td>
<td></td>
</tr>
<tr>
<td>Clinicians should provide tools for self-management of CAD (available at <a href="http://pkc.kp.org">http://pkc.kp.org</a>).</td>
<td></td>
</tr>
<tr>
<td>Patients with CAD should be given instructions for daily exercise.</td>
<td></td>
</tr>
<tr>
<td>CAD patients should be encouraged to increase intake of omega-3 polyunsaturated fatty acids (1 g daily), either by taking supplements or eating fatty fish.</td>
<td></td>
</tr>
<tr>
<td>Lifestyle modification and self-management skills should be reassessed annually.</td>
<td></td>
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</tbody>
</table>

### Risk Factor Reduction and Lifestyle Modification

The CAD Guidelines group reviewed a number of studies about cardiovascular disease risk factor reduction and lifestyle modification. Although evidence supports lifestyle modification such as smoking cessation, diet, weight reduction, prescribed exercise, and psychosocial counseling (in addition to lipid and blood pressure management), trials that evaluate specific exercise or weight reduction programs or diets vary in design. This variability makes development of specific, evidence-based recommendations difficult. Specific consensus-based risk factor reduction and lifestyle modification recommendations by the CAD Guidelines group are presented in Table 4.

According to a growing body of evidence, use of omega-3 fatty acids (n-3 polyunsaturated fatty acids) lowers the risk of recurrent vascular events in patients with CAD. The Lyon Diet Heart Study evaluated long-
The risk of recurrent vascular events ... is lowered by the use of omega-3 fatty acids. According to a growing body of evidence, use of omega-3 fatty acids (n-3 polyunsaturated fatty acids) lowers the risk of recurrent vascular events ...

### Table 5. Interventions for secondary prevention of coronary artery disease

<table>
<thead>
<tr>
<th>Lifestyle modification:</th>
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</thead>
<tbody>
<tr>
<td>Smoking cessation</td>
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<tr>
<td>Exercise</td>
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<tr>
<td>Weight management</td>
</tr>
<tr>
<td>Antiplatelet therapy:</td>
</tr>
<tr>
<td>Angiotensin-converting enzyme (ACE) inhibitors</td>
</tr>
<tr>
<td>Beta-blockers without intrinsic sympathomimetic activity:</td>
</tr>
<tr>
<td>Lipid management:</td>
</tr>
<tr>
<td>Target LDL-C &lt;100 mg/dL (&lt;2.59 mmol/L)</td>
</tr>
<tr>
<td>Oral anticoagulant therapy for patients with atrial fibrillation</td>
</tr>
<tr>
<td>Diet containing at least 1 gm per day of omega-3 fatty acids</td>
</tr>
</tbody>
</table>

**Summary**

Mary has recovered well from her acute coronary event. Because her diagnosis was made quickly, she received appropriate intervention rapidly, consequently preventing future clinically significant myocardial damage. Many evidence-based interventions are available to Mary that will greatly reduce her risk of another cardiac event (Table 5). For example, Mary’s medication regimen now optimally includes aspirin, clopidogrel (for at least the next month to one year), a beta-blocker, an ACE inhibitor, and a statin. She will need to stop HRT, even though she may experience symptoms associated with withdrawal of estrogen. She probably needs to consider and to make various lifestyle changes, many of which will require ongoing support from her health care providers, supplemented by self-management tools. A list of available self-management resources will be available on the Permanente Knowledge Connection Web site (http://pkc.kp.org). In the long term on the basis of interventions that we know are effective, Mary’s chance for a good outcome is excellent. ❖

### Acknowledgments

The author would like to acknowledge Wiley Chan, MD, from Northwest Permanente Medical Group, for helpful review and suggestions for the manuscript; and David W Price, MD, for editing suggestions to the table.

### References


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The Permanente Journal/ Spring 2003/ Volume 7 No. 2

clinical contributions

Evidence-Based Clinical Vignettes from the Care Management Institute: Coronary Artery Disease


To Choose One’s Own Way

We who lived in concentration camps can remember the men who walked through the huts comforting others, giving away their last piece of bread. They may have been few in number, but they offer sufficient proof that everything can be taken from a man but one thing: the last of the human freedoms – to choose one’s attitude in any given set of circumstances, to choose one’s own way.

— Viktor Frankl, 1905-1997, author, neurologist and psychiatrist, Holocaust survivor
“Farmhouse”
By Wuhao (Taki) Tu, MD

More of Dr Tu’s artwork can be seen on page 22 or visit his Web site at: www.takitu.com.
Introduction

Among Kaiser Permanente (KP) members in Northern California, only about 24.5% of adult patients who are obese or who are overweight with health complications report that they receive advice from their physician about better managing their weight, and only about 18% of sedentary patients report getting advice about increasing their physical activity. These numbers seem low, given the epidemic proportions of obesity, increased media attention, and public pronouncements from national leaders on the ill effects of obesity and inactivity. Fully 64.5% of the US population are overweight, and nearly a third are obese (body mass index (BMI) > 30).

The Physician’s Role in Counseling Patients about Weight and Physical Activity

By advising and counseling patients on weight management and related lifestyle factors, physicians can play an important role in addressing this burgeoning epidemic. Although many physicians cite lack of ability to change their patients’ behavior as a primary reason for avoiding discussion of weight control, studies have shown that physician counseling can be effective for changing patients’ physical activity and eating behavior and can produce weight loss.

One possible framework for advising patients is described by the acronym AIM, which stands for three aspects of weight management counseling:

- Advise all patients to be physically active;
- Identify at-risk, overweight, or obese patients by calculating BMI;
- Motivate high-risk patients to take steps toward adopting healthy types of lifestyle behavior.

For children, the same (ie, AIM) strategy applies. However, instead of generally advising increased physical activity, physicians should advise all children—regardless of shape and size—to do four things:

- Get up and play hard;
- Cut back on TV and video games;
- Eat at least five helpings of fruits and vegetables every day; and
- Drink less soda and juice drinks (drink water when thirsty).

How, exactly, can a physician counsel a patient about weight control and physical activity when the physician’s only opportunity to interact with the patient is a brief office visit? A number of useful strategies are available for effectively counseling patients, even when time is limited. The following is a five-step protocol for using joint decision-making techniques to counsel patients—children as well as adults—about weight management and exercise.

Step 1: Open the Conversation

The physician should open the conversation by asking permission from the patient to discuss the topic. For example, the physician might say, “Can we take a few minutes to discuss your weight and physical activity level?” or “Would you be willing to discuss ways to stay healthy and energized?” If the patient consents to the conversation, the physician should engage the patient by using open-ended questions, such as “How do you feel about your current weight?” or “Tell me about your usual exercise and eating habits.”

Step 2 (optional): Discuss Patient’s Weight, BMI, or Both

The physician may wish to verbally compare the patient’s weight or body mass index (BMI) against healthy standards by saying, “Your weight (or BMI) is ___; this is above what is considered a healthy weight (or BMI) for your height.”
Physicians who choose to share this information with their patients should then ask for the patient’s interpretation of the information, eg, by asking the patient, “What do you think of this?”

**Step 3: Present Options and Resources**

An important way to motivate patients is to offer them the options and resources they need to take the first step in managing their weight. These may be introduced by saying, “There are a number of ways to work toward a healthier weight or prevent further weight gain. You might consider these:

- Eat a healthier diet, starting by eating at least five servings of fruit and vegetables each day;
- Increase your daily physical activity; and perhaps
- Enroll in a weight management class given by the KP Health Education Department.”

Physicians may choose to have a list of these resources ready to give the patient along with the comment, “Here is a list of classes and resources that might help you work toward making healthy changes.”

For children who are inactive or overweight, physicians might also consider suggesting that they reduce their consumption of soda as well as their viewing of TV and video games.

**Step 4: Elicit an Area of Focus to Encourage Discussion**

A short discussion with the patient can really help to prepare him or her to focus on an area for immediate change. This discussion can be initiated by a simple question, such as the following:

- “What do you think would most improve your weight and health?”
- “What do you see as your next steps?”
- “Can you think of a physical activity you could try tomorrow?”
- “What is one realistic step you think you can take to start eating healthier foods?”

**Step 5: Close the Discussion**

To close the discussion about weight management and exercise, a physician should summarize the next steps to be taken by the patient. This summary may take the form of a comment (“You’ve said you think you could try …”) or a question (“Where does this leave you now?”). A physician may also give key advice in the form of a statement, such as

- “Getting regular physical activity is one of the best steps you can take to manage your weight and stay healthy” or
- “A small weight loss (even just ten pounds) can have a positive impact on your health.”

For children, this statement may be expressed as “Thirty to 60 minutes of play instead of watching TV can prevent some weight gain.”

Finally, a physician should express confidence in the patient, eg, by saying, “I am confident that if you make a commitment to yourself to work toward a healthier weight, you’ll find a way to do it. Remember, we have a number of resources at KP to help.”

**Sensitivity is Important**

Because the need to manage their weight is an emotionally difficult topic for many patients, any advice or counseling given to the patient is more effective when the terms used in the discussion are chosen carefully. Table 1 presents some examples of how to discuss the topic with tact and sensitivity.

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**Table 1. Suggested language for sensitively counseling patients about weight management and exercise**

<table>
<thead>
<tr>
<th>What NOT to say</th>
<th>What to say instead</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Obese”</td>
<td>“Overweight”</td>
</tr>
<tr>
<td>“Weight control”</td>
<td>“Weight management”</td>
</tr>
<tr>
<td>“Ideal weight”</td>
<td>“Healthier weight”</td>
</tr>
<tr>
<td>“Personal improvement”</td>
<td>“Family improvement”</td>
</tr>
<tr>
<td>Focus on patient’s weight</td>
<td>Focus on patient’s lifestyle</td>
</tr>
<tr>
<td>“Diets” or “bad foods”</td>
<td>“Healthier food choices”</td>
</tr>
<tr>
<td>“You should ...”</td>
<td>“Consider ...”</td>
</tr>
</tbody>
</table>

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**References**

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The KPNW Severe Obesity Management program has provided the overweight patient a complex care pathway that includes medical, psychosocial, exercise, and dietary assessments that engage patients in a self-help process related to weight management. Physicians, health educators, social workers, dieticians and physical therapists managed this process using a TEAM approach.

The Adverse Childhood Experiences (ACE) research lead by Vincent Felitti, MD, SCMPG, has demonstrated strong evidence that severe obesity is a consequence of food being used as a coping mechanism. The KPNW Severe Obesity Management program explores, supports, and offers options for this linkage of food and coping.

Write Around Portland

What Do We Gain? What Do We Lose?

By David Moiel, MD

Gains | Losses
--- | ---
Identity | Status Quo
Inertia | Avoidance Strategy
Pleasure | Food as Partner
Protection | Strength
Reduced Tension | Coping Mechanism
Avoidance of Maturity | Confrontation of Life Stress
Sedation | Excuse for Inaction
Avoidance of Sexuality | Protection from Unwanted Sexual Advances

Write Around Portland (WRAP) is a nonprofit organization that has served the underserved populations in the Portland Metropolitan area for at least four years with a process of self-expression using writing. The unique process includes a writing group that is coached by a trained volunteer for a ten-week period with the expectation and opportunity for the writer to have selected writings published in a professionally designed anthology AND the expectation and opportunity for a public reading. This combination of writing, coaching, publication, and presentation offers an incredible opportunity for individuals who were possibly previously voiceless.

The collaboration of WRAP and the KPNW Severe Obesity program was piloted in 2002 with six overweight patients. The ‘work’ that was produced on paper was matched by the transforming nature of the combined experience. The attached article highlights the work and feelings of the participants who provided many messages to us as providers. ✦

Can You See My Bruises?
K Lewis – Kaiser Permanente

Can you see my bruises?
Bruises not of black and blue, but bruises made of words!

Can you see my bruises?
Bruises not of color, not by the pain of touch, but by the pain of words.
Let the pain stop!
Take the words away!
They play in my head like a broken record.
Words, words, words!
Make them stop!
Why do I remember the hurtful ones?

Can you see my bruises?
Bruises from words heard through the years!

Can you see my bruises?
Bruises not of black and blue, but bruises from those who are supposed to love you unconditionally.
The empty compliments, better off unsaid.
The words never to be forgotten.

Can you see my bruises?
Bruises not of black and blue, but caused by words.
If you can see my bruises,
will you teach my family to see them?
Please help them to heal,
and then my bruises will heal too!

David Moiel, MD. is a General Surgeon at KPNW since 1979 and member of Severe Weight Management Program. E-mail: david.moiel@kp.org.
For the Kaiser Permanente (KP) bariatric surgery group, the first step was simply placing a pen in the hand of each of the participants—words flowed, rushing in gushes, spurring, bubbling. For seven years I had been facilitating writing workshops with people who are often ignored by the more general community—in low-income housing, in prison, in domestic violence shelters, in recovery programs. I had seen writing change people’s conception of themselves and the world around them. But an anxious energy often hangs about the room the first few days of a writing workshop. It can take two or three weeks before people reach in deep to the place where the stories and poems wait in their bodies.

That first evening with the bariatric group, I walked in the room to find eight excited faces waiting for me to explain how the workshop was structured and what we were going to do. Though they were nervous, as soon as they received their new journals and picked up their pens, the words flowed out. I found an eagerness to write that made people exclaim, push back their sleeves, bend eagerly over their journals, and write.

And from that first moment, when the participants wrote the words of their first prompt on the page, “I come from,” the words continued to pour out onto the page. Over the ten weeks, each writer grew more confident in and excited about the process of writing. Writing with the KP group brought me back, again and again, to why writing needs to be an integral part of our communities. I found a creative force that grew powerfully in the minds of people whose weight had risen up to 400 pounds and had felt like “the most invisible person in the room.” I began to understand the pain that many people carry around inside, in “bone, muscle, organs, tissue, flesh,” in “a body that is not me.” I learned that people find inspiration in the crack of a book, in muddy boots, in dance. And I found courage, the courage to say the words “how good it is to be me,” to write the words, “I am whole, complete the way I am.”

The Hands That Made Me
Calatra Riesterer – Kaiser Permanente

The hands that made me must have rough calluses, as often as He has had to mold me, press me back together, start anew. I sure was lots of work. He must have known that one day it would dry just right without cracks and after the firming in the kiln, it would be rid of imperfections and ready for the final dipping of gold. He knew it would shine brightly, sparkling like the sun with rays bursting forth, so He kept working the clay, knowing soon it would be perfected.

Isn’t it amazing how to one person it’s art and to another it’s trash? I guess it depends on who it matters to.

It’s kind of like when someone says, “Look at my children’s pictures, aren’t they the cutest children?” We smile, because maybe they’re not too cute to us.

That’s how it is with the hands that made me. He thinks I’m the best, His priceless piece, even though I see all the flaws in it. But what matters most? What I see or the one who made me? I am my Father’s daughter—what He says matters more than my view of myself.
The Path to Physical Freedom (My Surgery)
Calatra Riesterer – Kaiser Permanente

My journey to physical healing these last thirteen months has sure taught me a lot. I have been so blessed! I felt such a bond with Dr Louis Kosta, my surgeon. He tried to appear at our first meeting very professional and all doctor-like, but somehow God allowed me to see past that, and I saw a different side to him. He was indeed a kind man with a good heart. I saw a man who had lots of knowledge but also lots of care and kindness. He could sometimes laugh at my stupid comments and also, I’m sure, shake his head at all my dull questions. I told him once that God had given him a gift as a surgeon. Many go to school and learn a skill, but he also had been blessed with a gift by God. I prayed God would give him wisdom in each situation as he would need it. I believe it was God who showed me this about him.

He helped me in the path of physical healing. I had gone through a lot of emotional and spiritual healing prior to the surgery, and now I was ready for the final healing of my body. Dr Kosta and Kaiser gave me a gift. I know they would say it wasn’t them really, but Dr Kosta had to have discernment to see that I could walk this road. Do I think this surgery is for everyone? No! You must heal from the inside out! I believe that with all my heart!

I was ready for the body to match all the changes that had taken place on the inside, and I knew now I didn’t have to believe the self-lies about what I was or wasn’t. I found a different person when I looked in the mirror now. She was different from how I thought she would look, more shy in some areas, bolder in other ways. I think I like her. She can run now. She has breath and she laughs more. She plays harder and she loves deeper. She’s going places now she would only dream of before. Someone asked me once what I thought God thought about cutting up my body? I thought long and hard about this. I have absolutely no doubt God led me on this path every step of the way, right up to the right surgeon for me. I guess I’d say God knew my weaknesses, and he still does. It was an area I needed great help in. He also saw a person who he wanted to use to help others, but she was trapped in a body that didn’t move too well. Do I have any regrets? None! Well, maybe the skin not being firm, but seriously, it has given me such freedom to move physically and spiritually.

What would I say to Kaiser and Dr Kosta? How can you put it in words? I feel as if I have been given a gift, and how can you express such thanks to someone? I’m not sure you can, but I try. Maybe as they look and see my success, my joy, my desire to help others that are hurting, they will begin to understand what their gift has meant to me.

I thank you.

Empty Closet
K Lewis – Kaiser Permanente

I came home, no one was there. Walked down the dark hall and into my parents’ bathroom to get something out of my mom’s drawer. Nothing’s there, that’s weird! Next drawer, nothing there, that’s weird! Walked to Mom’s closet. Opened, empty! What is going on? Where are Mom’s things? She said she was going to her sister’s. How long?

Crying, I called my sister! Mom’s things are gone. I was so scared. What is going on? She came right home. Called Mom, said she wasn’t coming home. Couldn’t tell us face to face – would be too hard! What about us kids? How selfish of her! How dare you put yourself first!

I will never forget that night. Alone, scared, all by myself! Thank God for my sister! She was the one that held us together. Then and now! Parents incapable.

My Body
Calatra Riesterer – Kaiser Permanente

Does my body consist of only the outer flesh, or is it something more? As I walked this journey this last year, I didn’t know this outward body. It had been so long since I’d seen it like this. I was somebody else who now had to mold the inner into the outer shell. Visualize a lump of clay. Flatten it in your hand. Take a shape like a cookie cutter and place it in the clay. Oh, my! What do I now do with all the leftover clay? It doesn’t all fit in the new cutter. So some may have to go.

It was hard at times as I looked in the mirror. I remember one time I sat there and cried. I didn’t know that person staring back at me, and I had grown accustomed to the large lump of clay; now it was being forced to take shape. Don’t get me wrong. I liked the new me; I just didn’t know her. Things changed. I grew to love me over time, but still even when I sit sometimes, legs crossed (I always longed before to be able to do that), I still feel I’m looking at someone else. Almost like an out-of-body experience.

I’m more critical now of my body, yet it moves easier now, and I’m learning to know her.

But again I ask, are we a physical body, or are we not so much more?
Before My Surgery
Marlene Jamieson – Kaiser Permanente

I was suffocating. Always short of breath, and every day it felt like I could stop breathing any minute. Air was the one thing I knew would keep me alive, but my chest was so heavy it seemed to never let enough in.

Going to the bathroom is such a normal bodily function for the normal-sized individual, but it’s an entirely different world when you are severely obese. For at least ten years before my surgery, I could not wipe my own bottom. I tried so hard to control my bowel movements so I would only go at home. But a couple of days a week, I was unsuccessful. When you can’t wipe, you run a huge risk of smelling like poop. I would wear pads in hopes of not staining my clothes or chairs, but sometimes they didn’t always work.

I went shopping with my son, his wife, and their infant son. I had had a session in the bathroom just prior to our walk through the mall. My son kept checking my grandson’s diaper because he thought it needed to be changed. I knew he could smell me. I was so embarrassed I couldn’t even tell my own son of the problem I was having.

My doctor asked me how I cleaned myself if I couldn’t wipe. This was the appointment where I finally broke down and was in tears, asking if he would consider referring me for the bariatric surgery. I told him I couldn’t even reach my bottom in the shower so I had to be - asking if he would consider referring me for the bariatric surgery. I told him I couldn’t even reach my bottom in the shower so I had to become “creative” with washcloths. Another doctor told me that this physical challenge was a “dignity” issue and was hoping everything would work out so that I could have the surgery to be more normal.

Putting on shoes was another problem. I could only put them on while sitting on the edge of the bed. The sofa was too soft. With my knee bent and my foot as close to me as possible, I still strained my muscles and ribs trying to lean forward far enough to reach each foot.

Driving can be a real challenge. You don’t sit centered with the steering wheel. Seat belts don’t always fit. Reaching the radio and air exchange switches can be almost impossible depending on the make and model of the car. I’ve had steering wheels that could barely be turned because my lower belly would constrict the movement of the wheel in either direction.

Entering a new restaurant is terrifying. What kind of seating do they offer? Booths only? Forget it. If they have chairs, do they have arms or not? It was very rare to find chairs with arms that would allow my entire bottom to sit comfortably. I’ve spent several evenings bracing my legs to keep me in a chair. The fear of the chair breaking and collapsing would keep me from enjoying and sharing conversation. If I let my legs rest, I would slip forward and would have to reset my fanny back into the chair.

Public restrooms are another challenge. The handicapped stalls were my only choice since those stalls would be the only ones wide enough. If I had to use a regular stall, I usually couldn’t get my legs wide enough apart because of all the fat on my inner thighs.

However, the lack of energy was probably my biggest problem. I barely had energy to shower, dress, get to work, and get home. Housework rarely got done, because my weekends were always used to catch up on sleep and re-energize for the next week. It seemed like all I could do was take care of bathing and doing laundry. As long as my body was clean, that’s all that mattered.

If I expected company, which was rare, I would spend a great deal of energy just trying to do housework. I could do something such as washing dishes or vacuuming for no longer than ten minutes. My back would be in excruciating pain; I would be perspiring droplets of sweat into my eyes and breathing heavily. How can anyone get this sweaty in so few minutes? I’ll tell you, someone who is severely obese can.

Lord, please help me get out of this world.

Suicide was usually not a consideration, but there were times I thought it would help me when I just couldn’t face another day. The only thing that kept me from doing it was thinking about fitting me into a casket. Even though I’d told family members I wanted to be cremated, what if I was too big for that? What if they had no choice but to put me in a casket? At over 400 pounds, how many people would it take to carry me?

Now that I am almost a year after surgery, none of the above issues are challenges anymore. The only thing that kept me from doing it was thinking about fitting me into a casket. Even though I’d told family members I wanted to be cremated, what if I was too big for that? What if they had no choice but to put me in a casket? At over 400 pounds, how many people would it take to carry me?

For me, the progress has been phenomenal. I’ve discovered the person in myself that had been hidden in the dark corners of my soul. I had never really known me. I didn’t really like me very much. I didn’t feel normal with the world, as there was always something wrong inside. I’ve learned strength. I’m very tired from it, but the strength is there.

The natural disasters of my feelings are slowing down. There are still small hills to climb, light winds, and periodic drizzles. I am approaching the lake on the other side of that large mountain, and the water sometimes ripples due to light breezes.

Most of the time the lake is like a mirror reflecting the mountain I have just crossed.

Changing Patterns
Marlene Jamieson – Kaiser Permanente

I’ve traveled a long distance in the last four months. The mountains of anger and pain have been hard to climb. I sit in an exhausted heap as we plod to the end of group. I came up against turbulent winds, pouring rains, earthquakes, and rivers as wide as the Amazon. I met all these problems head on, overcame the adversity, and kept going.

For me, the progress has been phenomenal. I’ve discovered the person in myself that had been hidden in the dark corners of my soul. I had never really known me. I didn’t really like me very much. I didn’t feel normal with the world, as there was always something wrong inside. I’ve learned strength. I’m very tired from it, but the strength is there.

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Most of the time the lake is like a mirror reflecting the mountain I have just crossed.
Are You Sitting There?
Russell Lee Watkinson – Kaiser Permanente

Are you sitting there waiting for someone, or just relaxing on that bench in the shade?
Don’t you love how cool and soft the grass feels under your feet?
Thick, deep green, so relaxing, the sun hides its warmth behind the clouds,
but only for a moment, then it peeks again
and you can feel its warmth.
All the while, you feel a slight breeze that cools you down.
I wonder, would you mind if I sat next to you?
Would you feel nervous or tense?
Maybe I should ask? Maybe not.
Why not? It couldn’t hurt to ask, could it?
I wonder what you do for a living?
I see you wearing a suit, your coat folded neatly next to you on the bench
and your socks folded just so, on top of them.
Maybe it’s your lunchtime and you want to be alone.
Maybe you’re looking for a job and you’re resting here, maybe you’d like some company.
Should I talk to you or not? I just don’t know.
Go on. Do it. Talk to him.
Just walk right up there and say something.
“Do you have any spare change?”

Darkness
Russell Lee Watkinson – Kaiser Permanente

The enemy is dark. It consumes with fear.
We run but can’t hide from the darkness. It
blocks our thoughts and lets no light in with
which to see. I feel nothing and yet want to
feel something, anything. I want to see, and
as I yearn for this, I see a small faint light
seemingly far away. I peer through the dark
and the light becomes larger and seemingly
closer. I wish for more and it comes. I run
towards the light but get no closer, but when
I wish it nearer, it draws toward me. I feel
its warmth. I can see things, objects, ap-
pearing slowly. No, people. There are other
people here, and they are also wandering
and wondering. Some seem blind. Others
can see me and I them, and then I know. I
know the darkness is my fear and my igno-
rance. I can run from it or toward it. I wish
for change and almost effortlessly it hap-
pens. The others who blink their eyes also
see through the darkness, the darkness that
is in them and all around them. I don’t
know myself, but I know I want to under-
stand, but the light is fading, the others are
disappearing. I am in darkness once again.
The moment of light is gone, and I must
start again to work through the thick, black,
encompassing, fearful dark.

The Life Waiting

We must be willing to get rid of the life we’ve planned,
so as to have the life that is waiting for us.
— Joseph Campbell, 1904-1987, author
Dealing With The Angry Patient

By Edward C Wang, MD

Angry patients and families pose one of the biggest challenges for a clinician, for encountering this type of tense emotion often triggers one’s own fight-or-flight responses. Any person who is met with anger tends either to react with anger or with the desire to flee. Remaining calm, professional, and empathetic to the emotions of the patients is sometimes very difficult for any of us, but there are communication skills that can be used to defuse anger and re-establish effective dialogue with patients and their families.

Patients’ anger is often directed at a person or a situation that is unrelated to the physician. The patients’ stories need to be heard. Our curiosity about what has happened has a therapeutic effect. By staying curious, we also avoid being defensive about ourselves. By arguing or expressing opinions before letting patients finish their stories, a power struggle may ensue which may augment their anger. Careful listening is just a part of defusing the patient’s anger. It also involves some active-listening skills such as repetitions, summaries, validations, and empathetic statements.

When a patient is angry about a bad outcome, whether or not medical error was a possibility, empathy can still be used to address the patient’s emotions. As clinicians, we usually do not know the details of what has happened in a particular adverse situation, and we often cannot and need not to resolve the problems. The clinician-patient relationship will benefit from such empathetic statements as “sounds like you are quite angry about your diagnosis, tell me more about that.” In contrast, a statement of condemnation or judgment may not be very helpful for the patient or the medical group, such as “sounds like the other doctor missed your diagnosis.”

If the physician feels uncomfortable about a clinician-patient interaction, there is almost always some barrier that is in the way of effective communications. Being aware of the tension, identifying the barrier, and acknowledging with the patient that there is difficulty in the relationship are important steps in re-establishing understanding between a patient and clinician.

The Importance of Keeping Cool with Angry Patients
A Lesson Taught by My Patient

By Scott Abramson, MD

Barbara is one of my most “challenging” patients. Although she has genuine neurological problems, she is also extremely anxious and quite demanding. A former librarian, now with a lot of disability time on her hands, Barbara is as adept at cross-examination of doctors as she is at Internet medical research.

Recently I had to refer Barbara for a surgical operation. Suitcase full of cyber-literature, she arrived at the surgeon’s office. She began the interrogation of the surgeon with her usual vigor and determination. However, the more she pressed, the more relaxed the surgeon appeared. Barbara demanded explanations; the physician patiently explained. She insisted on detail; the physician calmly drew pictures. On her follow-up visit with me a few days later, Barbara summed up her experience at the surgeon’s office. “I was tremendously impressed with the doctor. He will be my surgeon. I sort of gave him a rough time,” she admitted, “but he never lost his cool. He must have a steady hand!”

All this got me to wondering. When angry, hostile, demanding patients attack us, maybe they don’t really mean it. Maybe it’s all a test. How steady is your hand? ☞

Edward C Wang, MD, (right) is an Internal Medicine physician at Woodland Hills Kaiser Permanente Medical Center in Southern California. He is the chair of the Southern California Clinician-Patient Communication Committee and is very involved in the wellness of physicians in the region. E-mail: edward.c.wang@kp.org.
Scott Abramson, MD, (left) is a Neurologist at Kaiser Permanente Northern California. He joined Kaiser Permanente in 1979. He is chair of the Physician Wellness Committee at Hayward, CA. E-mail: scott.abramson@kp.org.

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possible question could be: “I sense that you are upset about something, can you tell me more about it?”

Patients assign meaning to what has happened to them. Anger is expressed sometimes as an emotion derived from the consequences of a medical condition, as well as toward the medical condition itself. An example of this is a patient who becomes angry about the disability of an operation for appendicitis, and is also upset about having the condition itself. As clinicians, we don’t always consider the meaning behind the patient’s anger. Helpful phrases such as “will the operation affect you or you family in any other way?” may bring out issues that are previously unrecognized.

The emotions that are unrelated to the business at hand often frustrate us, and we would prefer to pursue the solutions to the medical problems. A physician may need to be in tune with the speed at which a patient is able to vent and move forward. The patient may not be ready to move toward the possible alternatives to a medical problem until his grief is expressed. The following Quick Guide summarizes the behavior and phrases that a clinician can use to deal with the angry patient. Other Quick Guides can be found at the Clinician-Patient Communications Intranet site: http://kpnet.kp.org/cpc/.

### Quick Guides

#### When a Patient is Angry About Others

- Pause and be attentive
- Avoid being defensive
- Stay curious about the patient’s story
- Acknowledge the difficulty of the interaction
- Find out the specifics of the story—encourage the patient to give the details
- Express empathy for the patient—acknowledge the emotion by name
- Make a statement guessing at the meaning behind the patient’s anger and validate
- Take an action on the patient’s behalf if possible. Be an advocate
- When possible, link the patient with the resources that can help
- Transition to purpose for the visit

#### Rationale and Useful Phrases

Sometimes patients arrive at an appointment angry about other experiences they’ve had with trying to make appointments, long waiting times, seemingly unresponsive staff or providers, etc. It is important to address these issues because they can interfere with your effectiveness as a clinician if you do not effectively manage the situation.

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Useful Phrases</th>
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<tbody>
<tr>
<td>Pause and be attentive</td>
<td>“Tell me about what’s upsetting you.”</td>
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<tr>
<td>• Avoid being defensive</td>
<td></td>
</tr>
<tr>
<td>• Stay curious about the patient’s story</td>
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<tr>
<td>Acknowledge the difficulty of the interaction</td>
<td>“Having to wait for 45 minutes to see me is really a long time.”</td>
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<tr>
<td>Find out the specifics of the story—encourage the patient to give the details</td>
<td>“Tell me more about what the receptionist said to you.”</td>
</tr>
<tr>
<td>Express empathy for the patient—acknowledge the emotion by name</td>
<td>“It’s very frustrating to have to wait so long.”</td>
</tr>
<tr>
<td>Make a statement guessing at the meaning behind the patient’s anger and validate</td>
<td>“Was it frustrating because it was a waste of your time?”</td>
</tr>
<tr>
<td>Take an action on the patient’s behalf if possible. Be an advocate</td>
<td>“I’ll see what caused the delays today. Maybe it’s something that can be avoided in the future.”</td>
</tr>
<tr>
<td>When possible, link the patient with resources that can help</td>
<td>“Would you like to register a complaint with the supervisor?”</td>
</tr>
<tr>
<td>Transition to purpose for the visit</td>
<td>“Well, now that you finally got to see me, what can I do for you today?”</td>
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</table>
Everyday Heroes Make a Difference in California

By Janet Howard

Walk into the lobby of the Southern California Regional Offices at Walnut Center in Pasadena, and you will be greeted by a larger-than-life photograph of a man grinning broadly as he demonstrates how to tape wires to his head in preparation for a night of observation in the Fontana Sleep Lab. He is Bert Henry, Polysomnograph Technician, and his story is up on the wall because his coworkers thought every- one else at Kaiser Permanente (KP) should know how good he is at easing patients’ anxieties and getting them to relax.

Further down the hall, Maria Carrasco, MD, smiles out from a photograph next to her quote, “When you understand your patients, you earn their trust and you can better treat them.” A simple truth, but Dr Carrasco, a Family Medicine physician at the Baldwin Park Medical Center, has turned it into a daily reality by championing around-the-clock interpreter services for members who speak limited English and by educating physicians about the cultural customs that influence how patients perceive health care.

Around the corner, another photograph shows Nancy Falvo, RN, in Education and Training at Los Angeles Medical Center, with Earl, a KP member for 42 years. They have known each other for a long time, and share the kind of bond that forms between a patient who needs ongoing care and a nurse educator who can “take the mystery out of illness and recovery.” Nancy worked closely with Earl’s family to help them master a complex intravenous therapy.

Who are these people, and why are their photographs and stories covering the walls at Walnut Center? They are Heroes, and they are part of a growing number of KP California physicians and staff being honored by their coworkers and regional leadership as part of the Everyday Heroes program. Some Heroes are honored for a particular act of kindness, others for their consistently high quality of work or deep involvement in the community. Most are surprised by the honor and take pains to share the recognition or downplay the importance of what they do. As the plaque at the front of the gallery reads, “If you tell them they are heroes, they will tell you what they did was not so much. If you ask the person who received their goodwill, they will tell you it made all the difference.”

Jeffrey Weisz, MD, SCPMG Medical Director-Elect, says the Everyday Heroes program lets us acknowledge people who might otherwise be almost invisible. “Most heroes share one important quality: humility. They don’t give of themselves because they’re seeking public recognition; they do it because they feel it’s their simple duty. The campaign is great because it gives us the chance to applaud our exceptional physicians and staff members.”

An Event That Became a Program

Everyday Heroes started out as a one-time event two years ago, but the experience resonated strongly, and now the program is evolving into a multi-layered, ongoing recognition project. Everyday Heroes are honored in a number of ways, which can include: coverage in local newsletters and on the Intranet portal, InsideKP; a pin with a special logo design; and a certificate signed by regional leadership. A cross section of Heroes are selected for inclusion in rotating exhibits of the Everyday Heroes galleries, located at Walnut Center and also at 1950 Franklin Street in Oakland, Northern California’s Regional Offices. The galleries are permanent displays, designed to complement the existing lobby architecture, and the MultiMedia Communications Departments of the Northern and Southern California Regions create the recognition panels, using professional photography and state-of-the-art printing. The overall effect is a powerful visual statement about the dynamic physicians and employees of KP, and how we work together creatively to improve both quality and service.

Unlike many corporate employee-recognition projects that reduce a series of workers to faces-of-the-month, the Everyday Heroes program tells specific, true stories about real people, representing every kind of work, all nominated by their peers. It’s an opportunity for
physicians and employees to publicly call attention to the people who truly stand out and make everyone around them glad to come to work. Nominations often contain phrases like, “He makes our department feel like a family” or “She is the shining gem of our department.” Sometimes physicians are nominated by staff members who are amazed by a particular doctor’s commitment: “He’s never ‘already too busy’ to add a patient on or call them at home.” And physicians are often delighted to have the chance to thank the people they depend on every day: “I am thrilled to nominate my outstanding administrative partner.” The descriptions are often quite emotional, and grow out of all the tiny moments of interaction that, over time, build lasting bonds of loyalty and respect.

Maree Flores, a Customer Service Representative at Los Angeles Medical Center, is exactly the kind of Hero who quietly and steadily goes about her business of helping patients. Motivated by memories of her sister’s battle with bone cancer in the 1960’s, Maree says that she understands the emotional fragility of the members who ask her, “Where do I go? What do I do?” She always steps in and provides both information and kindness. When her coworkers, who are privileged to witness her work every day, found out about the Everyday Heroes award, they were delighted to nominate her. Lorrie Lewis, Manager of Member Services, said, “I’d guess we get about 75 letters every month complimenting Maree on her knowledge, professionalism and courtesy. I don’t think I’ve met a more caring person in my life.”

An Everyday Heroes program guarantees that we take notice of people like Maree, who regularly intervene in a member’s moment of crisis to lessen fears and build hope. We work in the “health care” field, by definition a kind of work committed to healing and caring. But it is also work that places huge demands—physical, emotional, intellectual, and financial—on everyone involved. Over time, spirits may start to sag and the daily juggling can take its toll, damaging both focus and perspective. We need to find ways to re-mind ourselves and each other of our shared endeavor, and how lucky we are to be a part of it.

As Oliver Goldsmith, MD, SCPMG Medical Director, points out, “By its very nature, a health care organization is made up of caring people. Because of that fact, we can often take for granted that KP physicians and employees raise the bar on a daily basis in caring for and improving the lives of others. The Everyday Heroes campaign reminds us of the wonderful things individuals in our organization are doing.”

**Everyday Hero Teams**

Another major goal of the program is to honor the ways individuals at KP come together as teams. A trio of women at the Mountain View pharmacy exemplify how well various skills can be woven together to respond to a wide range of members’ needs. Pharmacist Amy Chih routinely translates three Chinese dialects. Pharmacy Tech Jeannie Stamper buys stickers for the children who visit the pharmacy because she wants them to know that “not everyone who wears a white coat is going to give them a shot.” And Pharmacist Lucia Lim personally delivers medication to elderly or disabled patients. She enjoys going to their homes, saying, “It’s a gift for me to help our members.”

And some of the best stories are about people who don’t even get paid to work their magic—like the Senior Care Connection volunteers in Riverside, most of whom are elderly themselves, who have built a network of support for seniors in their community.

The Everyday Heroes stories bear witness to a central KP philosophy that has its roots in the past. Sidney Garfield, MD, and his staff scraped together a little desert hospital out of hard work and teamwork, and later painstakingly worked out the concept of prepaid health care at Grand Coulee Dam while withstanding the onslaught of outside forces trying to destroy the experiment. Again and again, the KP strategy has been to build the workplace as a kind of home, a creative and energizing space where physicians and employees can work together toward common goals—a true “group practice.”

**The Galleries**

The KP tradition of internal support is evident in the pleasure coworkers derive from the opportunity to thank each other and publicize stories about people they admire. And the gallery installations are a way to gather

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The West LA Congestive Heart Failure Team, honored for dramatically improving the quality of life for members with CHF.
up some of those stories and share them with a wider audience. Anyone who walks through the lobbies of Walnut Center or Franklin Street and pauses to read the panels and look at the photographs will learn a great deal about what’s going on at KP. The physicians and employees who nominate Heroes are saying, to each other and to our members, “This is who we are; these are the things that matter to us.”

The Everyday Heroes program also spreads the word about particular projects associated with the Heroes—breast cancer activism, training for adolescent parents, or, in the case of Brigid McCaw, MD, from Richmond, the Family Violence Prevention Center she founded after witnessing too much hidden abuse. The gallery in Oakland included her story, and her words are powerful: “I was watching victims of domestic violence coming into and going out of the Emergency Department again and again, as though they were stuck in a revolving door.” How many people who stood reading those words recognized themselves or someone they know? How many remembered the name of the Center and resolved to get help after “meeting” Dr McCaw in the lobby of 1950 Franklin?

An Expanding Program: Regional to Local

The Everyday Heroes program is generating more interest as it becomes more visible, and medical centers around the state are considering gallery installations in their own facilities. Local recognition programs and the Everyday Heroes program can support each other, increasing the effect of both. The regional galleries honor Heroes from various facilities, but a local Heroes program focuses on people who already know each other and understand the specific challenges they share.

In December, the Fresno facility unveiled its own gallery, and by all accounts the event was a significant experience for the entire workforce. Olga Blanco of Environmental Services, who was honored as a Hero for her commitment to “making the facility sparkle for our members,” wept in amazement as she watched over 100 friends and coworkers walk through the new gallery.

Varoujan Altebrarmakian, MD, PIC, told the crowd, “This is our way of saying ‘thank you’ to those who serve. The people on this wall have served our members, our colleagues, and the world.” And Dr Altebrarmakian reports that, in the weeks since the opening, the exhibit is continuing to impact the Fresno facility. “The Heroes Gallery has created a tremendous sense of pride in our medical center. When people walk by the pictures of the physicians and staff it motivates them to want to be considered as a hero. The greatest outcome has been a direct sense that leadership visibly cares about public recognition.”

Even in the regional galleries, people often recognize someone they know—or someone they would like to emulate. Richard Cordova, President of Kaiser Permanente Southern California, says, “Our Everyday Heroes are role models. They have a mindset that exemplifies the KP Promise because they go out of their way to make our members and colleagues feel better. These heroes have shown us that a little extra attention can make a big difference when caring for our members.” And their stories inspire others. During the most recent changing of the recognition panels, a woman ran up and said, “Wait! Are you taking that one down? I wanted to remember what she said.” She took out a notebook and quickly recorded the quote from San Diego neonatologist Pat Bromberger: “Infants have such an amazing capacity to heal and grow. They can overcome so much. Any effort to help them survive is rewarded many times over.” And so thoughts like that are collected and passed on, to be used when someone needs a few words of inspiration.

Robert Pearl, MD, TPMG Medical Director, reminds us, “Ever since the founding of Kaiser Permanente, the reason for our remarkable success has been the excellence of our people. Each day, hundreds of individuals go the extra mile to meet a patient’s needs, cure a complex medical problem or comfort a family in grief. The Everyday Heroes program recognizes some of these physicians, nurses and staff. Each of us should be proud both of their accomplishments and of our own contributions.”

Everyday Heroes is a simple idea with a strong impact: the more we know about the good work being done by KP physicians and staff, the better the work will become. When we focus on the best we have to offer each other, our members and the community, we deepen the base of pride that is the richest soil for our future growth.
announcements

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the lighter side of medicine

THE HUMERUS ZONE

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

ERRATUM

In Steimle A. Clinical Vignette: Heart Failure, Perm J 2003 Winter; 7(1):9-17, the text in Figure 3 in the “Angiotension-Converting Enzyme Inhibitors box should read:
Use if serum cretinine level <3.0
The Secure Child: Helping Children Feel Safe and Confident in a Changing World
by Stanley I Greenspan, MD

The Secure Child is an outstanding book for parents and professionals alike. Although short and easy to read, the book is full of good information and techniques for handling children from birth through adolescence. The concepts and ideas that Dr Greenspan presents are the result of 30 years of in-depth study of children and their families. The author has chosen to focus his parenting book on the issue of security—a goal made clear by the book’s subtitle—to help our children feel safe and confident in an insecure world. This book was published after the sad and terrible events of September 11, 2001 and refers to them expressly once or twice to help us keep that goal—a sense of security—directly before us.

This book is divided into three major sections: infancy and early childhood; the grade school years; and adolescence. The same themes and techniques are described as they apply to each group, and advice is given in an upbeat, positive, “you-can-do-this” way. The basic needs of children—love, warmth, patience, communication, and listening—are themes interwoven through the book, which is neither preachy nor overinstructive. The Secure Child is a friendly guide containing practical ideas that can be implemented by parents or other caretakers who truly wish to give children the ingredients necessary for growing into competent adults who feel safe and have good self-esteem.

Each section of the book is divided into three sections. Without jargon and in a way that allows readers to apply the information to themselves and to their children, the first section of the book describes normal child development. The second section discusses signs of distress and insecurity commonly seen in specific age groups (for example, the chapter on infancy and early childhood discusses “excessive sadness” and “aggression and excessive risk-taking”). The third section—which discusses ways to help children strengthen their sense of security—is particularly powerful because it describes five issues that trouble many parents on a daily basis: 1) how to create “floor time,” the special time reserved for the child every day; 2) how to develop and maintain shared communication; 3) how to adapt each child’s floor time to that child’s own personality profile; 4) how to develop the parental skill of problem-solving (a section that will resonate with every parent); and 5) methods of setting appropriate limits for children. The problem-solving sections included throughout the book can serve as ready reference for parents trying to cope with specific areas of difficulty.

Woven throughout the book is the concept of security being absolutely essential for children’s mental health as they grow to adulthood. Secure children can learn, obey, think, and develop empathy. The Secure Child is therefore also essential reading for practitioners in the mental health and child care professions:

- The book serves as a reminder of how children grow and what they need;
- The book is a wonderful reminder of both the fabulous growth that can occur and the enormous limitations that can be imposed on this growth from birth through childhood and adolescence. The book thus frames the child’s growth as a continuous process throughout which techniques must be modified.
- The book is written in highly readable language that encourages parents to spend time with their children and to communicate with them on an individual basis.

I wish every parent could read this book; it is an important contribution to the literature on parenting. I regret, however, that the book will remain inaccessible to many parents who do not care and who deprive their children of the important ingredients emphasized in this volume: warmth, love, understanding, and empathy.

Stanley Greenspan is one of the great developmentalists of our time. His body of work shows that he is an extremely thoughtful and creative man who tries to understand children and the parent/child dyad. Unlike many other books on child development, The Secure Child is not a book drawn from one author’s own narcissistic ideas about children; instead, the book is based on solid research and is written beautifully so that the average parent can enjoy, understand, and use it.

Review by Paul Jay Fink, MD

Paul Jay Fink, MD, is a Professor of Psychiatry at Temple University School of Medicine; Chairman of the Youth Homicide Committee of the Philadelphia Interdisciplinary Youth Fatality Review Team; a Past President of the American Psychiatric Association; a consultant for public health in the City of Philadelphia; and an expert in the areas of child abuse and youth violence.
Inscribed Bodies: 
Health Impact of Childhood Sexual Abuse
by Anna Luise Kirkengen, MD, PhD

Although sexual abuse is common in the lives of many children and even decades later continues to show confusing sequelae in medical practice, childhood sexual abuse is comfortably protected by social taboo. The subject is therefore rarely acknowledged, much less included in our "review of systems." In this book, however, we are shown the profoundly destructive effects of familial and socially imposed secrecy and of being unable to speak openly, even to physicians, about childhood sexual abuse. Indeed, according to the author, "Violated humans are made sick by the silence and are sacrificed to the silence … which societies still resist becoming knowledgeable of and reflecting upon." (page 390). Inscribed Bodies is thus a book about things we wish not to know. This book, however, has great value which far exceeds its (expensive) price. Such a profound and insightful work as Inscribed Bodies comes into print only once every decade or two.

The author, Anna Luise Kirkengen, is a German physician in general practice in Oslo, Norway. She describes her book as an examination of how patients subjected to childhood sexual abuse had their integrity as humans violated by this abuse. After exploring the adverse health effects of sexual violation, Dr Kirkengen discusses the biomedical intervention necessitated by this sexual violation. Unfortunately, this is not a book about someone else’s subspecialty.

Based on tape-recorded interviews with ordinary patients seen by Dr Kirkengen, the book provides readers with actual quotes from these conversations as well as detailed analyses of them. The cases involve a wide range of clinical presentations, including depression, suicidality, somatization disorders, chronic pain, and chronic fatigue. Of course, most patients come into the office holding the necessary entry ticket of physical symptoms, but this visit is really a disguised adaptive strategy for seeking help (page 20).

The book is divided into three major sections:
• Approaching life-world experiences;
• Unfolding the impact of sexual violation; and
• Exploring the medical making of patients.
A short final section, Impressions, consists of a series of the author’s reflections expressed in the form of poetry.

Inscribed Bodies deserves attention as the work of an unusually observant and reflective physician who sees with frightening clarity and writes with ease and elegance. Inscribed Bodies will be of great interest to colleagues who feel an obligation to pursue self-development, both professional and personal. The book will be appreciated by those who are troubled by the disparity between the formal biomedical diagnoses we learned so proudly and the actual human problems that patients bring to us in our offices. The book will help us to accept the high level of responsibility accorded physicians and to better understand the human condition as we participate in the great dramatic moments of other people’s lives.

*A careful analysis of 18,000 middle-aged Kaiser Foundation Health Plan members in San Diego showed that the prevalence of self-acknowledged contact sexual abuse in childhood was 22%. The relation of this childhood abuse to adult health status was profound.*

**Reference**
For 200 years, Western-trained physicians have cared for patients by using an approach consisting of analysis of signs and symptoms and, more recently, interpretation of an expanding array of laboratory tests as they relate to disease states. For doctors to update their knowledge continually as information and technology advance at a furious pace may be exciting, but this task is also demanding, even daunting. When confronted with the demands of managed care, clinicians may find time a severely limited commodity. Consequently, they may find themselves compromising by de-emphasizing care of the “whole” patient—care which uses sensitivity and considers the patient’s cultural background. This compromise, of course, decreases the effectiveness of health care. During the training of family practice physicians (and, we hope, in their medical practice), emphasis is placed on a central idea: that both family health and community health are a consequence of the people that comprise them. Their health is affected by various other factors in their daily lives that impact their understanding of their health. Moreover, health is often socially defined into physical, mental, or spiritual components in a way that affects a patient’s acceptance of recommended treatment.

In her book, *The Latino Patient: A Cultural Guide for Health Care Providers*, Dr Nilda Chong addresses the impact of cultural influences on Latino patients. Dr Chong shares her personal background: Born in Panama to a Chinese father and a Latina mother, Dr Chong worked as a medical intern in the tropical rain forest of Panama; completed her doctoral studies at the University of California at Berkeley; and finished her book when she joined Kaiser Permanente. In the *Introduction*, she points out that “Latinos are dramatically changing the demographic profile of the United States. They currently comprise 13.3% of the total population and will likely grow to roughly 20% in 2030 and 25% by 2050” (page xvii). Moreover, where I practice, the Latino population currently represents nearly 27% of the county’s 2.9 million residents.

The book is divided into two parts, each containing five chapters. Part one defines the Latino patient and discusses historical progression of the terms Latino and Hispanic. She presents six social and demographic factors (language, nationality, religion, race, social class, age) which help define Latino culture. Dr Chong reviews the major health problems of Latino populations and discusses an interesting finding that a number of investigators have termed the epidemiological paradox, defined as “… the apparent lack of correlation between the socioeconomic profile of Latinos and their health outcomes” (page 13). The author states, “Some researchers have posited that the Healthy Migrant Effect might explain the lower mortality rates among Latinos. They [researchers] suggest that Latinos who immigrate to the United States are healthier individuals and therefore have lower mortality rates than of those Latinos who remain in their homeland” (page 15). This effect may further be accentuated by the Salmon Bias Effect, a postulate which holds that many Latinos prefer to return to their birthplace to die. A later chapter discusses the combined effect of these factors on the health care of Latino families as well as the way disease management is affected by the social networking that occurs within and between Latino families.

The illustrative vignettes presented in the first part of the book depict clinical encounters that will be enlightening for clinicians who have had little experience with Latino patients, and the vignettes will ring true for clinicians with more experience also. To positively influence health outcomes most effectively, health care practitioners must understand the definitions and beliefs held by Latinos about causes of illness. Some of these definitions and beliefs are reviewed in the chapter titled “Health Attitudes, Beliefs, and Practices,” which discusses how supernatural causes, emotions, and folk diseases are perceived by Latinos to affect health. The relation of self-care, religion, and folk medicine to health care is also discussed. The use of curanderos, sobadores, santeros, and herbal healers by Latino patients will be of particular interest to readers.

After establishing a strong foundation of background
information, Dr Chong explains how understanding cultural values may help clinicians to communicate health information effectively. The author describes the importance of incorporating several concepts—family, friends, faith, and fatalism—into a treatment plan. Part two of Dr Chong's book presents “A Culturally Competent Care Model for Latinos,” a model that invokes all the previous lessons to develop a practical and useful approach applicable in a clinical setting. A chapter is devoted to each portion of the model: greeting, listening, caring, treating, developing patient loyalty, and an effective farewell. The author explains the importance of each section of the model.

To guide development of a patient-clinician relationship that is effective from the beginning of the patient visit to the farewell, Dr Chong again uses clinical vignettes to provide clear, practical examples of critical points. This exercise will prove useful for clinicians. The Latino Patient provides a clear, concise review of many health care factors that are important for this population of patients. Health care practitioners should find that the information presented can assist them in caring for their Latino patients. On a personal note, I hope that after reading this resource, physicians and other health care practitioners will wish to continue expanding their knowledge and appreciation of the rich and diverse Latino culture.

Reference

To Have Succeeded

Success …
To laugh often and much,
To win the respect of intelligent people
And the affection of children,
To earn the appreciation of honest critics
And to endure the betrayal of false friends:
To appreciate beauty;
To find the best in others;
To leave the world a bit better,
Whether by a healthy child,
a garden patch or a redeemed social condition;
to know even one life
has breathed easier because you have lived.
This is to have succeeded.
— Ralph Waldo Emerson, 1803-1882, Unitarian minister, philosopher, poet
All PMG physicians and those clinicians eligible to do so may earn up to two hours of Category 1 credit for reading and analyzing the four designated CME articles, by selecting the most appropriate answer to the questions below, and by successfully completing the evaluation form. This form must be returned (fax or mail to the address listed on the back of this form) to The Permanente Journal by June 30, 2003 in order to receive credit. You will receive an acknowledgment by July 31, 2003. You must complete all sections to receive credit.

The Permanente Journal has been approved by the American Academy of Family Physicians as having educational content acceptable for Prescribed credit hours. Term of approval covers issues published within one year from the distribution date of November 2002. This Spring 2003 issue has been reviewed and is acceptable for up to two Prescribed credit hours. Credit may be claimed for one year from the date of this issue.

**Section A.**

*Article 1. Improving Appropriate Prescription Drug Use to Best Practice: Supporting Evidence-Based Drug Use*

The major reason(s) to implement a new process and structure to promote appropriate, evidence-based drug use to improve clinical quality and cost-effectiveness is (are):

- a. The tremendous rise in prescription drug costs in the late 1990s that approached hospital-related costs
- b. Purchasers demanding viable solutions to rising medical costs without compromising quality
- c. Pharmaceutical marketing practices including direct-to-consumer advertising and aggressive provider marketing that did not fully inform consumers and providers
- d. The need to establish a drug use management program that would focus on continuous improvement in clinical outcomes while managing drug utilization to best practice
- e. All of the above

Which of the following was not an acceptable approach to managing prescription utilization?

- a. Using an evidence-based approach to support clinical practice guidelines to improve drug therapy
- b. Applying prior authorization and a restrictive formulary to control drug utilization
- c. Providing automated decision support to effectively improve prescribing patterns
- d. Using prescription and other data sets to provide feedback to individual physicians through the peer comparison process

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*Article 2. Severe Obesity*

The NIH criteria for bariatric surgery state that certain patients with BMI as low as 35 may obtain the surgery. To be approved for such surgery, the NIH maintains that a patient should also have:

- a. Severe depression
- b. Mild depression only
- c. At least one life-threatening comorbid condition
- d. None of the above

The Trevose Behavioral program, where program costs are minimum and where there is a small but consistent success rate, attributes their success to which of the following strategies?

- a. Individual insight therapy
- b. People who do not lose weight receive individual counseling
- c. People who do not lose weight are not welcomed back into the group
- d. People are given a rigorous exercise program

(Continued on next page)
Article 3. Implementing a Diagnostic Algorithm for Deep Venous Thrombosis

Which of the following statements best summarizes the role of the D-dimer assay in evaluating a patient with possible deep venous thrombosis (DVT)?

a. A positive assay indicates a patient highly likely to have DVT
b. A negative assay indicates a patient highly unlikely to have DVT
c. A positive assay indicates a patient highly likely to have DVT when there is a moderate pretest clinical probability of DVT
d. A negative assay indicates a patient highly unlikely to have DVT when a high pretest clinical probability of DVT is lacking

For which patient would you most strongly consider follow-up compression ultrasonography (CUS) when an initial CUS is negative?

a. Patient with a low pretest clinical probability and a positive D-dimer
b. Patient with a history of idiopathic DVT and a negative D-dimer
c. Patient with a moderate pretest clinical probability and a positive D-dimer
d. Patient with a positive Homan’s sign and a positive D-dimer

Section B.

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

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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?

__________________________________________

__________________________________________

__________________________________________

__________________________________________

Section D. (Please print)

Name: ________________________________

E-mail: ______________________________

Address: ______________________________

Signature: ______________________________

Date: ______________________________

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