



The Permanente Journal

WINTER 2002 VOLUME 6 NO. 1

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Permanente Journal
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- 15 Perinatal Screening for Congenital Malformations and Genetic Disorders: Current Status and Future Directions.**
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This article provides a readable, concise overview of screening tests in newborn, infants and pregnant women. The field has made huge strides in recent decades, thanks in part to Kaiser Permanente efforts.

- 21 West Meets East: A Kaiser Permanente Mid-Atlantic Experience in Providing Adolescent Health Care.** Ann L Komelasky, MSN, PNP; Carol Forster, MD

Permanente Medicine has long been in the forefront with respect to special clinics for teenagers. This account by a very committed health professional details some of this history, explains the workings of such facilities, and pleads for further development in this area.

- 29 Stevens-Johnson Syndrome: A Case Study.** Matthew Smelik, MD

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- 32 Corridor Consult: Is Ceftriaxone Useful in Management of Fever Without Focus?**
 Gary Burkhart, MD

This informal discussion of practical aspects of treatment of children with fever of unknown cause is the first of a series of brief overviews of common clinical situations by Kaiser Permanente experts.

- 34 Evidence-Based Clinical Vignettes from the Care Management Institute: Major Depression.** David Price, MD, FAAP

Based upon a recent revision of the Adult Depression Guideline by The Care Management Institute, this article succinctly summarizes major aspects of diagnosis, management and follow-up of this condition. Included is consideration of different cultural backgrounds, the elderly, and adolescent depression.

- 44 The Relation Between Adverse Childhood Experiences and Adult Health: *Turning Gold into Lead*.**
 Vincent J Felitti, MD

This personal and passionate account of an important research initiative in Southern California presents convincing data showing a strong relation between emotional experiences as children and adult emotional and physical health.

- 48 Dear Doctor.** Anonymous

This single patient report is written by the patient. It personalizes the role of childhood experiences in production of illness and symptoms and drives home the point that physicians generally fail to recognize this common sequence.



On the cover:

"Teo" by Tina M Smith, MD, is a pastel portrait of her son. This pastel, along with "Zoe," her daughter (page 55) were drawn five years ago. These were her first creations using pastels.

Dr Smith is a plastic surgeon for TPMG. She trained at Stanford, and immediately following training, she took Dr Robert Pearl's advice and joined TPMG. "I love the creative process in many mediums, but plastic surgery is where the culmination of my disparate interests and talents allow their best and most important expression."

The Permanente Journal is always interested in considering artwork by Kaiser Permanente clinicians and employees. If you would like to submit art for consideration for the cover or interior of *The Permanente Journal*, please use the following guidelines:

Send us a high-quality color photograph of your art no smaller than 4"x5" and no larger than 8"x10". For cover art submission, portrait orientation is preferred. Please include a cover letter explaining Kaiser Permanente association, art background, medium and a brief statement about the artwork (description, inspiration, etc). Electronic and e-mail submissions are accepted, 600 dpi resolution is required.

Medical Ethics

- 52 Medical Futility.** Kate Scannell, MD, Editor
Commentary by Stephen C Henry, MD

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Jon Stewart, Associate Editor

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- 56 Commentary: “We’re Proud of You, Mid-Atlantic KP!”**
Lee Jacobs, MD, Associate Editor

An infectious disease specialist, Dr Jacobs shares his observations of the command center at ground zero of the anthrax crisis in the Mid-Atlantic.

- 57 Capitol Hill Hearing Testimony: Handling Casualties Caused by Weapons of Mass.** Testimony—By Susan Bersoff-Matcha, MD, Physician with The Mid-Atlantic Permanente Medical Group

As one of the physicians responsible for the first anthrax patient in the Mid-Atlantic, Dr Susan Bersoff-Matcha testified before the House Committee on Veteran’s Affairs. Her testimony is reprinted here.

- 60 Smallpox Sense.** Steven Black, MD

With a concise history of the smallpox vaccine, Dr Black outlines the risks, describes vaccination strategy in the case of possible bioterrorism, and cautions against routine vaccination.

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The Colorado Permanente Medical Group tells the story of how they affirmed patient advocacy as a key value closely linked to a satisfying work environment for the physicians.

- 65 Report of the Third Annual Permanente Rheumatology Association Meeting.**
Gerald Levy, MD, MBA; Stanford Shoor, MD

Highlights from the Third Annual Permanente Rheumatology Association meeting. You will find the discussion to be a practical and excellent, state-of-the-art overview of common rheumatologic diseases.

- 76 Results of the First National Kaiser Permanente Continuing Medical Education Needs Assessment Survey.**
David W Price, MD, FAAFP; Chris C Overton, MS; Joy Pfeifer Duncan; et al

You’ve been asked and here is what you said! Dr Price presents the results of a survey of Permanente physicians that asked about preferences for CME topics and opinions on what determines which CME meeting they attend.

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TPJ Mission ...

The Permanente Journal is written and published by the clinicians of the Permanente Medical Groups and KFHP to promote the delivery of superior health care through the principles and benefits of Permanente Medicine.

How to contact

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Where to find

The Permanente Journal ...

A full-text version of this journal is available on our Web site: www.kp.org/permanentejournal. In addition, copies of *The Permanente Journal* are available in Kaiser Permanente libraries programwide.

 *A Moment in Time*

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Ray Kay, MD

The basic principles of prepaid group practice medicine did not develop abstractly. They evolved out of the real needs and hard choices that were confronted and overcome in the creation of the early Permanente Medical Groups, as recalled by one of the late, great pioneers of Permanente Medicine.

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Calling All Artists & Writers

ARTISTS: Do you have talents beyond the medical world? Are you an artist-in-hiding? Is your second passion painting, sculpture, photography? Do you just have one great piece of art you created? *The Permanente Journal* wants to show the world your talents. Why not submit a photograph of your work for consideration for future covers and text pages.

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

AUTHORS: The editors of *The Permanente Journal* are planning an upcoming theme issue with a focus on the Physician Work Environment. We are interested in articles that focus on: Recruiting and Retention, Personal and Professional Development, Mentoring, Wellness, Health and Renewal, and Retirement.

If you are interested in contributing to *The Permanente Journal* see "Instructions for Authors" on page 100 or go to our Web site at: www.kp.org/permanentejournal.

WE WANT TO HEAR FROM YOU: Send all manuscripts and artwork samples to Merry Parker, Managing Editor, *The Permanente Journal*, 500 NE Multnomah St, Suite 100, Portland, OR 97232. E-mail Merry.E.Parker@kp.org if you have any questions.



Reader-Focused Improvements to *The Permanente Journal*

Tom Janisse, MD, Editor-In-Chief



In our 2001 reader survey you suggested improvements in *The Permanente Journal* that would give you more usable practice information, more interesting general information about medicine, and more about Permanente people and history. Many of your suggestions appear in this issue.

For all of the pediatricians who asked for more pediatrics articles, this is your special issue, with diverse topics and perspectives.

Beginning with the previous issue (Fall 2001) the cover and text paper is thinner (though maintains the quality of print and visual images), and the journal is lighter, more portable, and less expensive to distribute to you. This required that we add several pages to continue to “perfect bind” each issue: a cost trade-off with an information gain.

Our most popular section—**Permanente Abstracts**—expanded in the Fall 2001 issue. A new “Clinical Implications” box follows several of the abstracts, highlighting the author’s comments on how to embed the paper’s findings into Permanente Medicine practice.

TPJ’s most prized addition, appearing first in the Fall issue, and continuing as an ongoing feature, is the **Evidence-Based Clinical Vignettes from the Care Management Institute**. The first article focused on Asthma; the current article reviews Depression. These articles bring you CMI best practices in an evidence-based, case study format, easy to understand, and highly usable with boxed highlights, such as treatment goals, criteria for consultation, and practice tips. In addition, you can earn CME credit by completing the form at the back of the journal or online at our Web site: www.kp.org/permanentejournal.

Corridor Consult is a new feature introduced in this issue that springs from reader suggestions to have a specialist briefly review a common practice topic for primary care clinicians. This is something you can read in the three to five minutes it would take to have a consult in the clinic or hospital corridor. The consult includes tips on article references with more information. You can open the *TPJ* Web site and quickly find the article using the search function. You can then click on hyperlinks to either the MEDLINE abstract or the original resource article referenced in the consult.

With brief “structured abstracts” now appearing before each clinical and health systems study article, and brief article highlights appearing in the form of “Practice Tips,” *TPJ* is responding to your need for quick access to the most important information in an article when you only have a few moments. Later you can return to read in depth for other details.

Focused new technology and pharmacy updates will appear as regular features beginning in the Spring issue. These two areas have a high impact on clinicians practicing Permanente Medicine. New technology questions occur less commonly but are more difficult to answer since information is often not readily available. Patients may pose pharmaceutical questions daily, but the discussion may be difficult because of formulary and benefit coverage issues.

In 2002, *TPJ* will also explore the successes and failures of implementing best practices in regions. Developing a national guideline is a complex piece of work; transferring the practice into teams has a different set of complexities. Learnings from experience can help clinicians with practice changes.

Two other ongoing features, introduced this year, bring you relevant practice information: **Medical Ethics**, and **Clinician-Patient Communication**. To keep you connected to the Permanente culture and what’s happening around the KP world, we will continue to include: **A Word from the Medical Directors**, A Permanente **Moment in Time**, and will introduce profiles of remarkable Permanente physicians in **Physicians in the News**.

In this issue, we feature inside coverage of the health care response to the Anthrax bioterrorism event in Washington, DC. Permanente direction and clinical care demonstrate the exceptional national character of Permanente physicians.

In the Spring issue, we will feature our fourth annual celebration of the Vohs Awards winners and honorable mentions.

In the Summer issue, we will feature the recent research findings on the clinician work environment to help you with your patients, in your individual practice, with your work in teams, and with colleagues from other departments.

The editors appreciate hearing your ideas for additional ways that the journal can meet your needs in a busy practice with so much changing around you. ❖



Letters to the Editor

The Permanente Journal,

I haven't found time to invest much thought to *The Permanente Journal* until now, but this issue (Fall 2001) is outstanding, informative, interesting, and some entertainment with nice photo-art. I especially enjoyed the article on patient profiling by Renate Justin. Dr Justin, who is 'retired,' obviously combines a keen sense of observation and reflection with a fluid style of expression. I hope she will be encouraged to continue her medical writing.

Yossef Aelony, MD
Internal Medicine, Harbor City, CA

Dr Brian Alman,

I enjoyed your article on Medical Hypnosis in *The Permanente Journal* (Fall 2001). It surprised me that positive change took place in the case studies without delivering commands. I, like many others, assumed hypnosis was a matter of repeating commands to the subject until they were ingrained in their subconscious. How wrong I have been.

I plan to read the book you recommended, "The February Man," to understand more about this captivating subject. I also want to read your book on self-hypnosis so I can use it to remove some of my blocks. I practice in Internal Medicine for Kaiser Permanente in Atlanta, Georgia and receive *The Journal* at my office in Atlanta. I hope you continue to contribute your expertise.

Gail Gibson Vest, MSN, FNPC
Internal Medicine, Alpharetta, GA

Permanente Journal,

I am an internist at KP MAPMG. Just loved the photos in the Fall 2001 issue. Wow!

Susan Houseman, MD
Internal Medicine, Washington, DC

Dear Dr Alman,

I enjoyed your recent article in *The Permanente Journal* (Fall 2001). It reminded me of when, as an Internist, I used hypnosis in my practice at Kaiser Permanente (KP) many years ago. I was trained to use hypnosis by Jack Watkins while in my residency at the VA hospital, so when I started practice at KP, it was just one of the tools I used.

In 1991, I published an article¹ that showed a 25% increase in the time the cardiologist was able to keep the balloon inflated compared to the controls. More interesting, was the fact that Norepinephrine levels were higher in the hypnotized group. I think further studies are needed in this area.

In 1970, with Stan Abrams, I published an article² on the validity of polygraph tests with the use of hypnosis. It proved that hypnosis could fool the lie detector.

As an aside, an interesting patient of mine was having trouble selling her artwork. What she liked to paint didn't sell; what she didn't like to paint did sell. I asked her to bring in her art materials. In a trance I asked her to do a drawing from the left side of the brain and later to do a drawing from the right side of the brain. Her drawings were completely different, as was the way and the tools she used to draw them. I didn't tell her what to do with her art, but on her next visit she told me those two art forms combined in her mind and she was now happy selling her art. I imagine I was more relaxed then with my patients than the doctors are now.

Edwin J Weinstein, MD, PhD
Retired
Northwest Permanente

References

- Weinstein EJ. Use of hypnosis before and during angioplasty. *Am J Clin Hypn* 1991 Jul;34(1):29-37.
- Weinstein EJ, Abrams S, Gibbons D. The validity of polygraph with hypnotically induced repression and guilt. *Am J Psychiatry* 1970 Feb;126(8):1159-62.

TPJ,

I read, with interest, the Ethics article "Engendering Differences: Ethical Issues about Intersex" in the Fall 2001 *Journal*. I was impressed with the logic behind waiting to assign gender to these children, especially given the uncertain effects of prenatal and early neonatal hormone exposure on sexual differentiation of the brain. It may be easier to offer that advice from an ethical standpoint than a parental one, as the reality of having ambiguous genitalia and gender would be a difficult one for any family. I was disturbed, however, to see the recommendation on Dr Fausto-Sterling's part regarding management of the presented case of a child with XY/XO dysgenetic gonads. Her advice to wait until after puberty to see how the child develops and to what extent the Y-chromosome-bearing dysgenetic gonads can produce hormones ignores the real risk of gonadoblastoma. Although the data set is not complete, numerous peer-reviewed articles¹⁻³ describe a risk of malignancy of 5% by the age of 14 and 16% by the age of 20 in children with mixed gonadal dysgenesis, such as the case presents. The chance that any meaningful hormone production would result from these gonads is small, and I am aware of no reports that evaluate the potential of dysgenetic gonads to contribute to bone density or development of secondary sexual characteristics. I believe that the correct ethical argument would be that the parents must be informed of the risk of malignancy and the uncertain role of the gonads in sexual differentiation of the external genitalia, bone density, and gender preference. In addition, parents need to know that the majority opinion, based on the evidence that currently exists, remains that children with dysgenetic gonads containing a Y-chromosome-bearing cell line have bilateral prophylactic gonadectomy prior to the onset of puberty.

Kenneth A Faber, MD
Chief, Reproductive Endocrinology and Infertility
Colorado Permanente Medical Group

References

- Gourlay WA, Johnson HW, Pantzar JT, et al. Gonadal tumors in disorders of sexual differentiation. *Urology* 1994 Apr;43(4):537-40.
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Permanente Abstracts

Abstracts of articles authored or coauthored by Permanente clinicians.

From Northern California: Alcohol Drinking and Risk of Hospitalization for Ischemic Stroke

*Klatsky AL, Armstrong MA, Friedman GD,
Sidney S. Am J Cardiol 2001 Sep
15;88(6):703-6*

Reported studies are conflicting about the relationship of alcohol drinking to risk of ischemic stroke, and possibly racial disparity in this relationship has been suggested. This is a report of a prospective study in 128,934 KPMCP members. Of these persons, 2014 had at least one subsequent hospitalization for an ischemic stroke. The alcohol-ischemic stroke relationship was studied by Cox proportional hazards models with seven covariates. The results showed that light to moderate drinkers, vs lifelong abstainers, were at lower risk of ischemic stroke, with no major difference related to use of wine, liquor or beer. The alcohol-ischemic stroke relationships were similar in sexes, four racial groups, and multiple subsets. This study, plus plausible mechanisms, support a probable protective effect of light/moderate alcohol drinking against risk of ischemic stroke not primarily due to specific choice of alcoholic beverage.

Abstract created by author post publication. Reconstructed from American Journal of Cardiology, Vol 88, Klatsky AL, Armstrong MA, Friedman GD, Sidney S. Alcohol Drinking and Risk of Hospitalization for Ischemic Stroke, 703-6. Copyright 2001, with permission from Excerpta Medica Inc.

CLINICAL IMPLICATIONS: Advice about alcohol drinking should always be individualized according to specific risks and benefits. Indiscriminate advice to drink for health is inappropriate. The data in this study support a protective effect of light/moderate alcohol drinking against ischemic stroke risk. Thus, established light/moderate drinkers at high risk of ischemic stroke should not, except for specific reasons, be advised to abstain. —AK

From The Northwest: Gender and alcohol use: the roles of social support, chronic illness, and psychological well-being

*Green CA, Freeborn DK, Polen MR. J Behav
Med 2001 Aug;24(4):383-99*

Men and women differ in their use of alcohol, in their rates of chronic illnesses and psychological symptoms, and in the social support they receive. In this paper, we assess how the latter three factors are associated with alcohol use, and how these associations differ by gender. Respondents were 3074 male and 3947 female randomly selected Health Maintenance Organization members who responded to a mail survey in 1990. Hierarchical multiple regression analyses indicate that social support is associated with alcohol consumption in similar ways for both genders, yet the associations between some demographic, physical health/functioning, and psychological well-being measures are different for men and women. Men with fewer role limits due to physical health drank more, while women with better psychological well-being drank less. Poor psychological well-being may be a modifiable risk factor for increased alcohol use among women; practitioners should be alert for greater consumption among men with few functional limitations and good health.

CLINICAL IMPLICATIONS: The most important message for clinicians is that correlates of greater alcohol consumption appear to differ for men and women. Women with mental health symptoms, and those who were employed, drank more than other women. Unemployed men, and those with good physical health and functioning, drank more than other men. Both men and women with active social lives, especially club attendance, had higher alcohol consumption levels. Persons with these characteristics may benefit from more detailed queries about their alcohol habits. —CG

From Northern California: Exposure to environmental tobacco smoke: association with personal characteristics and self- reported health conditions

*Iribarren C, Friedman GD, Klatsky AL, Eisner
MD. J Epidemiol Community Health 2001
Oct;55(10):721-8*

STUDY OBJECTIVE: To examine the association between exposure to environmental tobacco smoke (ETS) and demographic, lifestyle, occupational characteristics and self-reported health conditions.

DESIGN: Cross sectional study, using data from multiphasic health checkups between 1979 and 1985.

SETTING: Large health plan in Northern California, USA.

PARTICIPANTS: 16,524 men aged 15-89 years and 26,197 women aged 15-105 years who never smoked.

RESULTS: Sixty-eight percent of men and 64% of women reported any current ETS exposure (at home, in small spaces other than home or in large indoor areas). The exposure time from all three sources of ETS exposure correlated negatively with age. Men and women reporting high level ETS exposure were more likely to be black and never married or separated/divorced, to have no college or partial college education, to consume three alcoholic drinks/day or more and to report exposure to several occupational hazards. Consistent independent relations across sexes were found between any current exposure to ETS and a positive history of hay fever/asthma (odds ratio (OR) = 1.22 in men, 1.14 in women), hearing loss (OR = 1.30 in men, 1.27 in women), severe headache (OR = 1.22 in men, 1.17 in women), and cold/flu symptoms (OR = 1.52 in men, 1.57 in women). Any current ETS exposure was also associated with chronic cough (OR = 1.22) in men and with heart disease (OR = 1.10) in women. Self reported stroke was inversely associated with any current ETS exposure in men (OR = 0.27). No associations were noted



for cancer or tumor and for migraine.

CONCLUSION: ETS exposure correlated with several personal characteristics potentially associated with adverse health outcomes. Although the study design precluded causal inference, ETS exposure was associated with several self-reported acute and chronic medical conditions.

CLINICAL IMPLICATIONS: In this study of the association of exposure to environmental tobacco smoke (ETS) with self-reported health conditions, about two-thirds of never-smoking men and women reported current ETS exposure. Never smokers with high-level ETS exposure were more likely to be young, black, not currently married, less educated, heavier alcohol drinkers, and subject to occupational hazards. Regardless of these factors, ETS exposure increased the risk of hay fever/asthma, hearing loss, severe headache, chronic cough in men, and cold/flu symptoms in both genders and of heart disease in women. These data may be useful in encouraging smoking cessation by persons close to patients with a wide variety of conditions. —CI

From Northern California:
Beyond screening for domestic violence—A systems model approach in a managed care setting

McCaw B, Berman WH, Syme SL, Hunkeler EF. Am J Prev Med 2001 Oct;21(3):170-6

BACKGROUND: Implementation of screening guidelines for domestic violence has been challenging. The multifaceted “systems model” may provide an effective means to improve domestic violence screening, identification, and intervention in the health care setting.

METHODS: We developed: 1) a systems model approach using tools for effective referral, evaluation, and reporting of domestic violence; 2) materials for distribution to female patients; 3) training for social service and mental health clinicians

to provide domestic violence evaluation; and 4) strong links to the community.

SETTING: A nonprofit, managed care facility in Richmond, California.

PARTICIPANTS: Staff and members of the managed care plan.

MAIN OUTCOME MEASURES: 1) Increased screening for domestic violence by clinicians; 2) increased awareness of the health care facility as a resource for domestic violence assistance; and 3) increased member satisfaction with the health plan’s efforts to address domestic violence.

RESULTS: The number of clinician referrals and patient self-referrals to an on-site domestic violence evaluator increased more than twofold. A preintervention and postintervention phone survey of members seen for routine checkup showed an increase in member recall of being asked about domestic violence. After intervention, statistically significant increases were seen in members’ perception that the health plan was concerned about the health effects of domestic violence ($p < 0.0001$) and about members’ satisfaction with the health plan’s efforts to address this issue ($p < 0.0001$).

CONCLUSIONS: A systems model approach improved domestic violence services in a managed care health setting within one year and affected clinicians’ behavior as well as health plan members’ experience. This successful implementation makes it possible to address critical research questions about the impact of a health care intervention for victims of domestic violence in a managed health care setting.

Reprinted by permission of Elsevier Science from Beyond screening for domestic violence. A systems model approach in a managed care setting, McCaw B, Berman WH, Syme SL, Hunkeler EF. American Journal of Preventive Medicine, Vol 21 No 3, 170-6, Copyright 2001 by American Journal of Preventive Medicine.

CLINICAL IMPLICATIONS: Domestic violence (DV) is common, seldom obvious, and best addressed in the health care setting by a

coordinated, comprehensive facilitywide approach. As a primary care provider, you should use your exam room and waiting area to convey information that DV is an important health issue and that resources are available. Incorporate routine inquiry about DV into history taking, and know how to effectively and efficiently respond when the answer is “yes.” This response should start with an affirmative statement: eg, “You are not alone; we can help.” Then, document the facts in the medical record, and refer the patient to an appropriate mental health clinician. —BM

From The Northwest:
Congestive heart failure in type 2 diabetes: prevalence, incidence, and risk factors

Nichols GA, Hillier TA, Erbey JR, Brown JB. Diabetes Care 2001 Sep;24(9):1614-9

OBJECTIVE: To estimate the prevalence and incidence of congestive heart failure (CHF) in populations with and without type 2 diabetes and to identify risk factors for diabetes-associated CHF.

RESEARCH DESIGN AND METHODS: We searched the inpatient and outpatient electronic medical records of 9591 individuals diagnosed with type 2 diabetes before 1 January 1997 and those of an age- and sex-matched control group without diabetes for a diagnosis of CHF. Among those without a baseline diagnosis of CHF, we searched forward for 30 months for incident cases of CHF. We constructed multiple logistic regression models to identify risk factors for both prevalent and incident CHF.

RESULTS: CHF was prevalent in 11.8% ($n = 1131$) of diabetic subjects and 4.5% ($n = 435$) of control subjects at baseline. We observed incident cases of CHF in 7.7% of diabetic subjects free of CHF at baseline (650 of 8460) and in 3.4% of control subjects (314 of 9156). In diabetic subjects, age, diabetes duration, insulin use, ischemic heart disease, and elevated



serum creatinine were independent risk factors for both prevalent and incident CHF. Better glycemic control at baseline, and improved glycemic and blood pressure control at follow-up predicted the development of CHF.

CONCLUSIONS: Despite controlling for age, duration of diabetes, presence of ischemic heart disease, and presence of hypertension, insulin use was associated with both prevalent and incident CHF. Why insulin use and better glycemic control both at baseline and follow-up independently predicted CHF deserves further study.

CLINICAL IMPLICATIONS: Congestive heart failure is common in type 2 diabetes, increasing steadily as patients age. Because lower HbA1c was associated with CHF, less aggressive glycemic control may be warranted in some patients, especially in those with ischemic heart disease using insulin to control their diabetes. —GN

From Northern California:
A randomized comparison of home visits and hospital-based group follow-up visits after early postpartum discharge

Escobar GJ, Braveman PA, Ackerson L, et al. Pediatrics 2001 Sep;108(3):719-27

OBJECTIVE: Short postpartum stays are common. Current guidelines provide scant guidance on how routine follow-up of newly discharged mother-infant pairs should be performed. We aimed to compare two short-term (within 72 hours of discharge) follow-up strategies for low-risk mother-infant pairs with postpartum length of stay (LOS) of <48 hours: home visits by a nurse and hospital-based follow-up anchored in group visits.

METHODS: We used a randomized clinical trial design with intention-to-treat analysis in an integrated managed care setting that serves a largely middle class population. Mother-infant pairs that met LOS and risk criteria were randomized to the control arm

(hospital-based follow-up) or to the intervention arm (home nurse visit). Clinical utilization and costs were studied using computerized databases and chart review. Breastfeeding continuation, maternal depressive symptoms, and maternal satisfaction were assessed by means of telephone interviews at two weeks postpartum.

RESULTS: During a 17-month period in 1998 to 1999, we enrolled and randomized 1014 mother-infant pairs (506 to the control group and 508 to the intervention group). There were no significant differences between the study groups with respect to maternal age, race, education, household income, parity, previous breastfeeding experience, early initiation of prenatal care, or postpartum LOS. There were no differences with respect to neonatal LOS or Apgar scores. In the control group, 264 mother-infant pairs had an individual visit only, 157 had a group visit only, 64 had both a group and an individual visit, four had a home health and a hospital-based follow-up, 13 had no follow-up within 72 hours, and four were lost to follow-up. With respect to outcomes within two weeks after discharge, there were no significant differences in newborn or maternal hospitalizations or urgent care visits, breastfeeding discontinuation, maternal depressive symptoms, or a combined clinical outcome measure indicating whether a mother-infant pair had any of the above outcomes. However, mothers in the home visit group were more likely than those in the control group to rate multiple aspects of their care as excellent or very good. These included the preventive advice delivered (76% vs 59%) and the skills and abilities of the provider (84% vs 73%). Mothers in the home visit group also gave higher ratings on overall satisfaction with the newborn's posthospital care (71% vs 59%), as well as with their own posthospital care (63% vs 55%). The estimated cost of a postpartum home visit to the mother and the newborn was \$265. In contrast, the cost of the hospital-based group visit was \$22 per mother-infant pair; the cost of an individual 15-minute visit

with a registered nurse was \$52; the cost of a 15-minute individual pediatrician visit was \$92; and the cost of a ten-minute visit with an obstetrician was \$92.

CONCLUSIONS: For low-risk mothers and newborns in an integrated managed care organization, home visits compared with hospital-based follow-up and group visits were more costly but achieved comparable clinical outcomes and were associated with higher maternal satisfaction. Neither strategy is associated with significantly greater success at increasing continuation of breastfeeding. This study had limited power to identify group differences in rehospitalization and may not be generalizable to higher-risk populations without comparable access to integrated hospital and outpatient care.

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From Southern California:
Developmental follow-up in 15-month-old infants of asthmatic vs control mothers

Schatz M, Harden K, Kagnoff M, et al. Pediatr Allergy Immunol 2001 Jun;12(3):149-53

The purpose of this study was to evaluate mental and psychomotor development in infants of mothers whose asthma was actively managed during pregnancy and to compare the results with those from infants of non-asthmatic mothers. Bayley Scales were assessed at age 15 ± 3 months in 379 infants of asthmatic mothers and 376 control infants. Relationships were assessed between developmental indices and asthma severity, socioeconomic status, and infant prematurity. No significant differences in developmental indices were observed between infants of asthmatic mothers and control infants. No relationships were identified between developmental indices and maternal asthma severity. In the infants of both asthmatic and control mothers, a lower mean psychomotor developmental index was associated with birth weight <2500 g, and a lower mental developmental index with lower socioeconomic status. Hence, in-



fants of asthmatic mothers whose asthma has been actively managed during pregnancy have developmental outcomes at 15 months of age that are similar to those of control infants.

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CLINICAL IMPLICATIONS: Although recent studies have suggested that actively managed gestational asthma is not associated with increased perinatal mortality or morbidity, none of these studies have addressed longer-term infant development. This study suggests that infants of asthmatic mothers whose asthma has been actively managed during pregnancy have developmental outcomes at 15 months of age that are equivalent to infants of nonasthmatic mothers. These data provide additional support for the recommendation that maternal asthma should be aggressively managed during pregnancy in order to optimize infant outcome. —MS

**From Northern California:
Postmenopausal hormonal
support: discontinuation of
raloxifene versus estrogen**

Kayser J, Eittinger B, Pressman A. *Menopause* 2001 Sep-Oct;8(5):328-32

OBJECTIVE: To determine possible differences in continuation among women initiating treatment with the selective estrogen receptor modulator raloxifene, versus those initiating treatment with estrogen-containing regimens.

DESIGN: A pharmacy prescription database search for refill patterns. The study subjects were members of Kaiser Foundation Health Plan, a large health maintenance organization; 1394 women age ≥60 years who filled index prescriptions for either raloxifene (n = 331) or systemic estrogens (n = 1063) between April 1998 and March 1999. The main outcome measure was discontinuation based on prescription refill patterns through December 2000.

RESULTS: At 24 months, the probabilities

of discontinuing were 56% for women starting raloxifene compared to 72% for women starting estrogens. The likelihood of discontinuation was significantly less among women starting raloxifene than among those starting estrogen (hazard ratio = 0.75; 95% confidence interval = 0.64-0.88). Adjustments for age and prescriber specialty did not affect the risk.

CONCLUSIONS: We conclude that discontinuation of estrogen by women well beyond the age of menopause is high; more than two-thirds discontinue within two years of starting. Women starting therapy with raloxifene are 25% less likely to discontinue their medication than those starting estrogen, providing some promise that long-term benefits of raloxifene may be more easily achieved than those of estrogen.

CLINICAL IMPLICATIONS: Early discontinuation of HRT is common, and largely related to unacceptable side effects. This study of women 60 and older showed the usual high rate of discontinuation among women starting HRT but a lesser rate among women starting raloxifene. Subsequent interview studies showed this difference was related to better tolerability of raloxifene. The challenge is to prescribe and tailor HRT so that it is better tolerated. —BE

**From Southern California:
Comparing sports injuries
in men and women**

Sallis RE, Jones K, Sunshine S, Smith G, Simon L. *Int J Sports Med* 2001 Aug;22(6):420-3

OBJECTIVE: To compare the pattern of injury between men and women in seven collegiate sports to determine if gender-specific factors exist which could be modified to reduce the risk of injury to female athletes.

DESIGN: Retrospective cohort study of injury reports compiled by certified athletic trainers between Fall 1980 and Spring 1995.

SETTING: An NCAA division III College.

PARTICIPANTS: Eighteen to 22-year-old male and female college athletes competing in

seven like sports (basketball, cross-country running, soccer, swimming, tennis, track and water polo) at the intercollegiate level, playing similar number of contests and using the same facilities.

MAIN OUTCOME MEASURES: Analyses of injury patterns, classified by sport and anatomic location, for men and women in seven like sports.

RESULTS: A total of 3767 participants were included in the study, with 1874 sports-related injuries reported among the men and women's teams. Of these injuries, 856 (45.7%) were sustained by female and 1018 (54.3%) by male athletes. Overall, no statistically significant gender difference was found for injuries per 100 participant-years (52.5 for female athlete versus 47.7 for males). A statistically significant gender difference in injury incidence (p < 0.001) was seen for two sports: swimming and water polo. Female swimmers reported more back/neck, shoulder, hip, knee, and foot injuries, and female water polo players reported more shoulder injuries. When evaluating all sports concurrently, female athletes reported a higher rate of hip, lower-leg, and shoulder injuries, while male athletes reported a higher rate of thigh injuries.

CONCLUSION: Except for some minor gender differences in total injuries for two sports and several differences in total injuries by anatomic location, our data suggest very little difference in the pattern of injury between men and women competing in comparable sports. The increased rate of shoulder injury among female swimmers probably resulted from the more rigorous training philosophy of their coach. Thus, no gender-specific recommendations can be suggested for decreasing the incidence of injury to female athletes competing in these sports.

Sallis RE, Jones K, Sunshine S, Smith G, Simon L. *Comparing sports injuries in men and women. Int J Sports Med* 2001 Aug;22(6):420-3. Georg Thieme Verlag.

**From Northern California:
Cohort study of thyroid cancer in a
San Francisco Bay area population**

Iribarren C, Haselkorn T, Tekawa IS, Friedman GD. *Int J Cancer* 2001 Sep 1;93(5):745-50

Using data from a large health plan, we per-



formed a cohort study of thyroid cancer among 204,964 persons (aged 10–89 at baseline in 1964–1973, 54% female) followed for a median of 20 years. There were 196 incident thyroid cancers (73 in men, 123 in women). Risk was independently and positively related to female gender [relative risk (RR) = 1.56, 95% confidence interval (CI) = 1.12–2.19], Asian race (RR = 2.86, 95% CI = 1.76–4.65), completed college or post-graduate education (RR = 1.76, 95% CI = 1.20–2.59), history of goiter (RR = 3.36, 95% CI = 1.82–6.20), radiation of the neck region (RR = 2.33, 95% CI = 1.28–4.23) and family history of thyroid disease (RR = 2.18, 95% CI = 1.17–4.05). An inverse association was found for black race (RR = 0.55, 95% CI = 0.33–0.91). Cigarette smoking, alcohol consumption, personal history of hyperthyroidism, hypothyroidism, overweight or obesity, weight gain since age 20, height, occupational exposures, reproductive factors, oral contraceptives and hormone use did not show statistically significant relations to thyroid cancer. These results provide further evidence for a role of female gender, radiation, goiter, Asian race, high educational attainment and family history of thyroid disease in the etiology of thyroid cancer.

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CLINICAL IMPLICATIONS: We performed a cohort study of thyroid cancer among more than 200,000 Northern California enrollees (54% females, aged 10–89 at baseline in 1964–1973). In follow-up for a median of 20 years there were 196 incident thyroid cancers (73 in men, 123 in women). Our results indicate, the person most likely to develop thyroid cancer is a well-educated Asian woman with an enlarged thyroid gland, whose mother had a thyroid problem and who had neck radiation as a child. — CI

From Northern California:
Alcohol consumption patterns and health care costs in an HMO.

Hunkeler EM, Hung Y, Rice DP, Weisner C, Hu T. Drug Alcohol Depend 2001 Oct 1;64(2):181-90

We examined the relationship between patterns of alcohol consumption and health care costs among adult members of the Kaiser Permanente Medical Care Program (KPMCP) in Northern California. A telephone survey of a random sample of the

KPMCP membership aged 18 and over was conducted between June 1994 and February 1996 (n = 10,175). The survey included questions on sociodemographic characteristics, general and mental health status, patterns of past and current alcohol consumption; inpatient and outpatient costs were obtained from Kaiser Permanente's cost management information system. Results showed that current non-drinkers with a history of heavy drinking had higher health costs than other non-drinkers and current drinkers. The per person per year costs for non-drinkers with a heavy drinking history were \$2421 versus \$1706 for other non-drinkers and \$1358 for current drinkers in 1995 US dollars. A history of heavy drinking has a significant effect on costs after controlling for sociodemographic characteristics, health status and health practices. Current drinkers have the lowest costs, suggesting that they may be more likely than non-drinkers to delay seeking care until they are sick and require expensive medical care.

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Power

Our scientific power has outrun our spiritual power.

We have guided missiles and misguided men.

The Reverend Dr Martin Luther King, Jr, 1929-1968

Research on Child and Adolescent Mental Health: NIMH's Blueprint for Change

Ten percent of children and adolescents in the United States today have mental illness severe enough to cause major functional impairment in some aspect of their lives.^{1,2} These children are more likely to drop out of school, engage in high-risk sexual behavior, and have substance abuse problems as well as lifelong health problems and social problems.^{1,2}

What We Know

Research on child and adolescent mental health has progressed tremendously in the past decade. For example, we now know that multiple genetic and environmental factors interact before and after birth to shape brain development and subsequent behavior. Studies of caregiving show that situations of abuse and neglect may affect brain cell survival, neuron density, and neurochemical aspects of brain development—as well as the way people react to stress in childhood and later life.¹⁻⁸

Researchers in basic behavioral science have increased our understanding of contextual influences on development of personality and behavioral traits. For example, we are learning why gender differences in depression begin to appear during adolescence. The work of Nolen-Hoeksema, Larson, and Grayson⁹ showed that gender-related effects are mediated by child care, social factors (eg, sexual abuse, low income, inequity in distribution of work), and personality factors (eg, lower levels of mastery and a greater tendency to ruminate when depressed). After these variables are controlled, gender differ-

ences become minimal. This mediation suggests that depression is more prevalent in adolescent girls because of factors that socialize them to be more emotionally expressive and to adopt internalizing coping strategies. By better understanding how parents influence girls' perception of emotional mastery and self-evaluation, we can develop interventions that decrease vulnerability to depressive symptoms.

Another area of study, sleep regulation, has documented the serious emotional and behavioral health consequences of insufficient sleep among adolescents.¹⁰ During pubertal maturation—when physiologic need for sleep increases—many adolescents sleep less than necessary, even on school nights. This sleep deprivation results from late bedtimes combined with early school start times.¹¹ Although the short- and long-term consequences of insufficient sleep are not fully established, early research indicates negatively affected school performance and mood as well as impaired self-regulatory abilities.¹⁰ Sleep deprivation leads to irritability, poor concentration, and emotional lability.¹⁰ The most important observation is

that sleep deprivation, mood disturbance, impaired concentration, and diminished self-regulatory skills can lead to more severe symptoms of impaired functioning at school and in social situations.¹⁰

In the past decade, researchers have increasingly turned their attention to evidence-based treatment of children and adolescents with mental disorders. At least two dozen specific psychosocial interventions have been identified as efficacious for conditions such as attention deficit and hyperactivity disorder (ADHD), anxiety, oppositional-defiant disorder, conduct disorder, and depression.^{12,13} Empirically validated interventions include intensive case management, therapeutic foster care, and home-based forms of therapy (especially multisystemic forms of therapy and models of home visitation by nurses).^{14,15}

Advances in drug therapy have resulted in successful approaches for treating ADHD, obsessive-compulsive disorder (OCD), and childhood anxiety. Major studies are underway to test benefits of psychotherapy, drug therapy, and combined treatment for adolescents with major depression, ADHD, and OCD. Other clinical trials are studying children with bipolar disorder, autism, and other major mental disorders.¹³

Research has identified some treatments that are potentially ineffective and some that appear harmful. For example, some forms of institutional care do not

... we now know that multiple genetic and environmental factors interact before and after birth to shape brain development and subsequent behavior.



MARY L DURHAM, PhD, (left), is the Director of Kaiser Permanente's Center for Health Research Northwest and Hawaii; Vice President of Research, Kaiser Foundation Hospitals; Member of the National Advisory Mental Health Council; and a member of the Workgroup on Child and Adolescent Mental Health Intervention Development and Deployment. E-mail: Mary.Durham@kp.org.
MARY JANE ENGLAND, MD, (right), is the President of Regis College, Boston, MA; Former President of Washington Business Group on Health; Member of the National Advisory Mental Health Council; Chair of the Workgroup on Child and Adolescent Mental Health Intervention Development and Deployment.

provide lasting results after the child returns to the community. “Boot camps” and residential services provided to delinquent juveniles are largely ineffective. Behavioral problems may actually increase in high-risk adolescents involved in peer-group-based interventions.^{1,3}

What We Need to Know

But many important issues remain unresolved. Joined by a group of scientists from around the United States as well as staff from the National Institute of Mental Health (NIMH), we recently reviewed our progress and greatest challenges in child and adolescent mental health research.¹ Our report (available at www.nimh.nih.gov/child/blueprint.cfm) is intended to serve as a research blueprint for the next decade. The report acknowledges a considerable gap between currently available information and the scientific knowledge we urgently need to address the needs of children with mental disorders. Our review clearly establishes that childhood mental disorders exact a tremendous toll on children and on the nation as a whole. Moreover, compelling evidence indicates that by 2020, childhood neuropsychiatric disorders will rise by more than 50% internationally to become one of the five most common causes of morbidity, mortality, and disability among children.¹

Recommendations in the NIMH report highlight gaps in our current knowledge in neuroscience, behavioral science, prevention methods, psychosocial interventions, psychopharmacology, and combined interventions and ser-

vices. The clinical knowledge derived from this research can—and should—be the basis for delivering effective clinical services to children and adolescents seen at Kaiser Permanente. Specifically, we need new emphasis on prevention and effectiveness trials, prevention services, and cost-effective preventive strategies. Treatment outcome studies should focus on more than symptom reduction; instead, interventions should also be designed to improve performance at school, family interactions, and other social interactions.

***Our review
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We must also change the way we approach outcome studies: We must move from our current laboratory-based mindset to a practical approach that can be implemented by clinicians. Scientists must develop and adapt psychosocial treatment for use in real settings, such as schools and primary care facilities. Rates of one or more comorbid Axis I psychiatric disorders among children with ADHD range from 15% to as much as 75%.¹⁶ However, published randomized controlled trials (RCTs) of stimulant drugs include only children with “pure” ADHD and thus dilute (or perhaps eliminate) applicability of trial results to clinical practice.^{1,56} In general, research-level precision in pediatric and adolescent assessment and rigid adherence to treatment pro-

ocols may be impossible in a busy clinical setting.

More psychosocial treatment programs should target potentially life-threatening conditions, such as suicide and eating disorders. Much more research is needed on relatively understudied conditions, such as bipolar disorder, autism, neglect, physical and sexual abuse, and early-onset schizophrenia. We need to better understand comorbidity, especially medical and psychiatric disorders; substance abuse and depression; and anxiety and depression. We must more fully examine parental mental illness, including its impact on preventing and treating disorders in children.

Increased research is needed on managing serious mental illness with psychopharmacology. At present, three fourths of all drugs approved by the US Food and Drug Administration (FDA) for adult use have not been approved for use in children and thus are prescribed “off label” when used in pediatric medicine.¹⁷ Disorder-based efficacy trials of medications under patent protection are now being conducted to determine their appropriate use in treating acute medical conditions. However, researchers must examine the long-term safety and effectiveness of such drugs. In addition, the medical community greatly needs studies that examine reasons why patients do not follow treatment recommendations.^{1,15}

In the near future, delivery of care will move from clinic-based models toward patient-centered family care delivered in out-of-office settings, such as home, school, and the Internet.^{1,18} Researchers must study the possi-



bility and benefits of providing services that include nontraditional methods—ie, methods that use new technology and other innovative means—to reach out to children and adolescents along with their parents, caregivers, and teachers.

The Cost of Inaction

In 1998, US expenditures on children in specialty mental health and general health sectors totaled \$11.75 billion—about \$173 per child.^{1,34} This expense increased nearly threefold from 1986, when expenditures totaled about \$3.5 billion (not accounting for inflation).^{1,34} Approximately 4.3% of children received psychotropic medication, use of which was greatest in older children (5% of children aged 6-11 years; 5.6% of adolescents; 0.7% of children aged 1-5 years).^{1,35} The United States spent an estimated \$1.1 billion on psychotropic medications for children in 1998.^{1,35} The National Advisory Mental Health Council report revealed that the rate of outpatient mental health services has increased since the 1980s; however, only 5% to 7% of children receive some specialty mental health services in contrast with the estimated 20% of children who have a diagnosable mental disorder.^{1,34}

***We must move
from our current
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that can be implemented
by clinicians.***

Stigma continues to be a major barrier to obtaining mental

health treatment for children and adolescents. Scientifically based treatment does exist but may not be very effective in real-world medical practice: Most treatments and services that children receive have not been evaluated outside the laboratory and may not have been studied across developmental stages of childhood and adolescence.

Inaction on this research agenda would impose an enormous cost burden on children, parents, schools, and health care systems. This cost is further magnified by recognizing that the consequences of childhood disorders extend beyond childhood. Not only do mental disorders diminish quality of life for children during their early years, but these disorders also extract an enormous toll on productivity later in life. These burdens may also be carried forward from one generation to the next. With this potential effect in mind, we urge clinicians, scientists, and policymakers in Kaiser Permanente and beyond to aggressively pursue new knowledge and to seek improved practices for preventing and treating mental disorders in children and adolescents. ♦

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Growth

Mere change is not growth.
Growth is the synthesis of change and continuity,
and where there is no continuity there is no growth.
CS Lewis, 1898–1963, British theologian, writer and critic



“Snowbound”

by Alan D Fremland, MD

Dr Fremland has been interested in photography from his early teens, when he got a box camera and a few darkroom supplies. It has been his hobby ever since. This photograph, entitled “Snowbound,” was taken from the window of his boyhood home, in St Paul, MN, with a Rolleicord camera he purchased with money earned from shoveling sidewalks. His subjects have varied over the years and include travel photography, landscapes from afar and close up, people, and professional topics in his work. Dr Fremland has recently been exploring the use of his computer, scanner, and printer instead of a darkroom to produce prints.

Dr Fremland was a Radiologist with SCPMG in San Diego for 22 years. Upon retiring, he and his wife have traveled, for the past ten years, mostly by RV, and resettled in the Hill Country of South Texas, outside of San Antonio.



Perinatal Screening for Congenital Malformations and Genetic Disorders: Current Status and Future Directions

Introduction

Perinatal screening for congenital malformations and genetic disorders had its inception four decades ago, when testing of newborns for phenylketonuria began. Today, in part because of pilot studies conducted by the Southern California Permanente Medical Group (SCPMG) and The Permanente Medical Group (TPMG) (see next section), second-trimester prenatal screening for neural tube and abdominal wall defects, Down syndrome, and trisomy 18 is widely done by means of biochemical markers (alpha-fetoprotein, human chorionic gonadotropin, unconjugated estrogen, and inhibin A). Population-based antenatal screening for additional disorders, such as cystic fibrosis, Tay-Sachs disease, and hemoglobinopathies, has also grown in popularity. Current research efforts are directed toward first-trimester screening for Down syndrome and identification of fetal cells within the maternal circulation.

Newborn screening for phenylketonuria, galactosemia, and hypothyroidism is done in all 50 states. Selected states conduct additional screening for biotinidase deficiency, congenital adrenal hyperplasia, cystic fibrosis, hearing loss, homocystinuria, and maple-syrup urine disease, as well as for sickle cell disease and other disorders of hemoglobin production. Screening for amino acidemia, organic acidemia, and fatty acid oxidation disorders by tandem mass spectrometry is under active investigation in California and several other states and is already being utilized for suspected metabolic disorders by SCPMG's Regional Genetic Testing Laboratory.

Prenatal Screening Programs: Current Status of Prenatal Screening for Neural Tube Defects

Prenatal screening began with the discovery by British investigators, in the early 1970s, that open neural tube defects (NTDs)—anencephaly, spina bifida, and encephalocele—were associated with an elevated concentration of alpha-fetoprotein (AFP) in the amniotic fluid and maternal serum.¹ During pregnancy, small amounts of AFP (a glycoprotein

Summary

Developed during the past four decades, perinatal screening for congenital malformations and genetic disorders has revolutionized health care for pregnant women and young infants. We review the current status of prenatal and newborn screening, highlight some of KP's contributions to this area of health care, and explore future directions in clinical screening.

with a molecular weight of approximately 70,000 daltons synthesized by the embryonic yolk sac and fetal liver) enters the amniotic fluid via fetal urination, gastrointestinal secretion, and transudation from exposed blood vessels.² AFP crosses the placenta and enters the maternal circulation, where it can be measured in the serum.² AFP can be detected in maternal serum by seven or eight weeks of gestation and reaches a peak concentration at about 30 weeks of gestation.² (Whereas most open NTDs are accompanied by an elevated level of maternal serum AFP, closed NTDs are not associated with abnormal AFP levels.)

Prenatal Screening for Down Syndrome

In 1984, a reduced AFP level in maternal serum was found useful as a screening test for Down syndrome.³ When combined with two additional second-trimester biochemical markers (serum human chorionic gonadotropin (hCG) and unconjugated estriol) at a 5% false-positive rate, the rate of accurately detecting Down syndrome among women under age 35 years rose from 25% to 60%.⁴ Use of a fourth marker, inhibin A, will be added to the California screening program in the next year and will increase the Down syndrome detection rate to 75% among women under age 35 years.⁵ Thus, measuring four serum markers (AFP, hCG, unconjugated estriol, and inhibin A) in women younger than 35 years during the second trimester in combination with genetic amniocentesis or chorionic villus sampling (CVS) in women 35 years or older should allow the prenatal detection rate for Down syndrome

Use of a fourth marker, inhibin A, will be added to the California screening program in the next year and will increase the Down syndrome detection rate to 75% among women under age 35 ...

HAROLD N BASS, MD, (top) who is board-certified in Pediatrics and Medical Genetics, has been with the Southern California Medical Group in Panorama City for over 30 years. In addition, Dr Bass is an elected member of the SCPMG Board of Directors, a full clinical professor at the University of California Los Angeles (UCLA) School of Medicine, and an adjunct professor of Biology at California State University, Northridge, where he was instrumental in establishing a graduate program in genetic counseling. Dr Bass is a graduate of the University of Chicago's Pritzker School of Medicine. E-mail: Harold.N.Bass@kp.org. **JAMIE BEAVERS TAYLOR, BSc**, (bottom) will be awarded a master's degree in Genetic Counseling by California State University, Northridge, next spring. Ms Taylor received a bachelor's degree in Psychobiology from UCLA in 2000. The work presented here was done while Ms Taylor was on a clinical rotation with Kaiser Permanente's Valley Service Area.





Within all Kaiser Permanente (KP) divisions nationwide, prenatal screening is routinely conducted for possible Rh and ABO blood group incompatibility and for certain infectious agents ...

Table 1. Differential diagnosis made on the basis of an elevated level of maternal serum AFP

<p>Conditions of fetal origin:</p> <ul style="list-style-type: none"> Abdominal wall defects (gastroschisis, omphalocele) Congenital nephrosis of Finnish type Cystic adenomatoid malformation of lung Cystic hygroma Decreased maternal weight Epidermolysis bullosa Fetal death or impending fetal demise Fetomaternal hemorrhage Gastrointestinal obstruction (eg, diaphragmatic hernia, duodenal atresia, esophageal atresia) Multiple gestation Oligohydramnios Open neural tube defects (anencephaly, encephalocele, spina bifida) Renal agenesis Sacrococcygeal teratoma Triploidy Underestimated fetal age Urethral obstruction
<p>Conditions in which elevated α-fetoprotein level may occur independent of pregnancy or sex:</p> <ul style="list-style-type: none"> Ataxia-telangiectasia Cirrhosis of liver Cystic fibrosis Germ cell tumor Hepatitis Hepatoblastoma Hepatocellular carcinoma Hereditary tyrosinemia Yolk sac tumor

to reach 95% (Table 2). Genetic amniocentesis or CVS is the standard testing recommendation for women older than 35 years, who account for 20% of Down syndrome births.

Prenatal Screening for Other Medical Conditions

An elevated AFP concentration may also occur in other conditions (Table 1), including multiple pregnancy (eg, twin gestation); fetal abdominal wall defects (omphalocele and gastroschisis); Turner syndrome with cystic hygroma; fetal bowel obstruction (esophageal atresia, duodenal atresia, congenital diaphragmatic hernia); cystic adenomatoid malformation of the lung; congenital nephrosis of the Finnish type; epidermolysis bullosa; teratoma; and actual or impending fetal demise.⁶

Population-based prenatal screening programs currently include molecular or enzymatic testing for Tay-Sachs disease in persons of Ashkenazi Jewish, Cajun, or French-Canadian ancestry; use of hemoglobin electrophoresis to detect sickle-cell hemoglobinopathy in persons of African or African-American origin; and determination of mean corpuscular volume (MCV) from a complete blood count among persons with African, Asian, or Mediterranean background. (A decreased MCV in a non-iron-deficient individual may be indicative of alpha- or beta-thalassemia trait.)

Within all Kaiser Permanente (KP) divisions nationwide, prenatal screening is routinely conducted for possible Rh and ABO blood group incompatibility and for certain infectious agents, including hepatitis B, human immunodeficiency virus (HIV), rubella, syphilis, group B streptococcus, and varicella-zoster. A positive finding may have implications for fetal hydrops, neonatal jaundice, transplacental infection, or teratogenicity.

Table 2. Biochemical screening results diagnostic for neural tube defects, Down syndrome, and trisomy 18

	Neural tube defects	Down syndrome ^a	Trisomy 18
α -fetoprotein level	High	Low	Low
Chorionic gonadotropin level	Normal	High	Low
Unconjugated estriol level	Normal	Low	Low
Inhibin A level	Normal	High	Normal

^aalso known as trisomy 21



Reduced levels of the three most widely used serum markers—AFP, hCG, and unconjugated estriol—are associated with an increased risk of trisomy 18.⁷ When maternal age was combined with a finding of decreased levels of these three analytes, trisomy 18 was accurately detected at a rate of 60%.⁸

Organized prenatal screening programs (eg, in California and Great Britain) that measure serum AFP concentration and additional biochemical markers have established that the period between 15 and 20 gestational weeks is the optimal time for obtaining a maternal blood sample.

Women in whom an “unexplained” elevated maternal serum AFP level is found after detailed (ie, level II) ultrasound studies and normal results of amniocentesis face an increased risk of second-trimester fetal demise, preterm birth, placental abruption, preeclampsia, and intrauterine growth restriction,^{9,10} although a similar risk for adverse perinatal outcome was not shown by TPMG investigators studying a large series of patients with unexplained elevated hCG levels.¹¹ A very low maternal serum estriol level may be associated with congenital X-linked ichthyosis caused by steroid sulfatase deficiency¹² or with a rare autosomal-recessive disorder of cholesterol metabolism, Smith-Lemli-Opitz syndrome.¹³

Prenatal Screening Using Ultrasonography

Ultrasound has become another screening tool widely used by clinicians who care for pregnant women. Under standards established by the American College of Radiology,¹⁴ the American College of Obstetricians and Gynecologists (ACOG),¹⁵ and the American Institute of Ultrasound in Medicine,¹⁶ current practice is to perform a detailed ultrasound survey of the fetal anatomy and related structures in all prenatal patients at between 18 and 20 weeks of gestation. For most women with an isolated finding of choroid plexus cyst, hyperechogenic bowel, or pyelectasia <4 mm in a fetus with otherwise normal growth parameters, pregnancy outcome is normal. Some may consider these findings “nondisease of high technology”; nonetheless, patients with these findings in addition to a sonographic abnormality (eg, congenital heart defect, oligohydramnios, or suboptimal fetal growth) should receive further intervention or closer follow-up for perinatal complications.

KP’s Contribution to Prenatal Screening Programs

After assessing the utility of prenatal screening, two KP entities—SCPMG and TPMG—produced data that

ultimately led to passage of legislation requiring that maternal serum AFP screening be provided to all pregnant women in California who choose to receive this service. In 1984, KP’s California Division inaugurated screening programs in Northern and Southern California; today, 85% of women within KP receive voluntary second-trimester AFP screening, whereas 75% of women statewide receive this screening (S Goldman, MPH, personal communication, 2001). Another KP screening program—TPMG’s population-based prenatal screening program for cystic fibrosis—began in November 1999, and is currently the largest of its kind.

The California Department of Health Services’ Genetic Disease Branch contracts with TPMG and SCPMG to conduct state-mandated voluntary perinatal screening for Health Plan members of the KP California Division. As a result, both medical groups have developed a sophisticated infrastructure which, under regional coordination and as the need arises, provides professional and member education, genetic counseling, ultrasound studies, amniocentesis, laboratory services, and clinical follow-up by obstetricians, perinatologists, pediatric endocrinologists, pediatric hematologists, infectious disease specialists, audiologists, or metabolic specialists (geneticists and nutritionists). TPMG also publishes a newsletter for internal distribution (“The Screen”), and both SCPMG and TPMG have developed multidisciplinary clinics for the care of patients with craniofacial malformation, cystic fibrosis, forms of hemoglobinopathy, metabolic disorders, and spina bifida.

New Directions in Prenatal Screening

Screening methods for improved detection of Down syndrome are being investigated. The most promising of these methods uses pregnancy-associated protein A (PAPP-A) and either hCG or its free beta subunit in maternal serum in combination with sonographic measurement of the nuchal fold at 11 to 14 weeks of gestation.¹⁷ CVS or amniocentesis is used to confirm a positive screening result, which is denoted by a reduced serum PAPP-A level in conjunction with an elevated level of hCG (or its free beta subunit) and increased nuchal fold thickness.¹⁷

First- or second-trimester gestational screening for Down syndrome may be further enhanced when immunoassay is performed for urinary hyperglycosylated human chorionic gonadotropin (H-hCG—also known as invasive trophoblast antigen, or ITA), a substance which is produced in greatest quantity at the beginning of pregnancy. Problems encoun-

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... all 50 US states and the District of Columbia conduct universal newborn population screening ...

tered with determination of serum H-hCG levels led investigators to measure urinary H-hCG, in which the median level was found to be 9.5-fold higher in Down syndrome cases.¹⁸ Although further studies of H-hCG are needed, measurement of four second-trimester serum markers (AFP, hCG, unconjugated estriol, and inhibin A) with urinary H-hCG detected 96% of Down syndrome cases (false-positive rate, 5%) in women of advanced maternal age (≥ 35).¹⁸

Molecular-based screening for cystic fibrosis (a potentially devastating autosomal-recessive pulmonary and digestive disorder) was the subject of a 1997 National Institutes of Health consensus conference.¹⁹ The American College of Medical Genetics and ACOG recently agreed on a panel of DNA probes for use in prenatal screening for cystic fibrosis.²⁰ Voluntary preconception or prenatal screening for cystic fibrosis is particularly useful when offered to those with a positive family history of cystic fibrosis and to persons of European or Ashkenazi Jewish background, among whom a carrier frequency of one in 25 to one in 30 is higher than in other population groups. The mutation detection rate among Caucasians is 97% in the Ashkenazi Jewish population and 80% in persons of European background; it is lower in other groups.²⁰

Retrieval of fetal cells from maternal blood early in pregnancy is another potential noninvasive screening method for detecting aneuploidy and other antenatally diagnosable conditions if certain technical challenges can be overcome. These challenges include identification of markers unique to fetal cells; determining whether a particular fetal cell type originated in the current pregnancy; and achieving advances in cell-sorting technology for cell enrichment and purification. Investigations are primarily focused on isolation of fetal nucleated red blood cells and trophoblast sprouts, which do not persist in the maternal circulation after the current pregnancy.²¹

Current Status of Newborn Screening

At present, all 50 US states and the District of Columbia conduct universal newborn population screening and follow-up programs for phenylketonuria (PKU), galactosemia, and hypothyroidism. Each of these conditions, if untreated, has cataclysmic consequences for the infant, and all three fulfill well-established criteria for newborn population screening. Successful screening programs target serious, relatively common disorders for which treatment is available; include relatively inexpensive screening tests

that are easy to perform; and promptly communicate results (ie, to parents and physicians) as well as institute treatment.²²

Several US states screen for additional disorders which fulfill these criteria for population screening of newborns. These disorders include forms of sickle-cell hemoglobinopathy and hemoglobin H disease, screening for which is currently done in California; maple-syrup urine disease (MSUD), a disorder of branched-chain amino acids; congenital adrenal hyperplasia (21-hydroxylase deficiency), which, if undetected, may result in Addisonian crisis and shock at one or two weeks of age; biotinidase deficiency; and homocystinuria (Table 3).

New Directions in Newborn Screening

Two US states—Colorado and Wisconsin—currently screen neonates for cystic fibrosis using a two-stage approach in which the immunoreactive trypsinogen level is determined from a blood spot. If testing shows elevated trypsinogen level, molecular analysis is done for several common cystic fibrosis mutations, to be followed by confirmatory sweat chloride testing. Early diagnosis and intervention can improve nutritional status in infants and young children with cystic fi-

Table 3. Status of newborn screening programs in the United States

<p>Conditions screened for nationwide (50 states):</p> <ul style="list-style-type: none"> Congenital hypothyroidism Galactosemia Phenylketonuria Hyperphenylalaninemia
<p>Conditions currently screened for in selected states:</p> <ul style="list-style-type: none"> Biotinidase deficiency Congenital adrenal hyperplasia Cystic fibrosis Hearing loss Hemoglobin disorders (eg, sickle cell, alpha-thalassemia) Homocystinuria Maple-syrup urine disease
<p>Conditions likely to be subjects of future screening programs using tandem mass spectrometry:</p> <ul style="list-style-type: none"> Amino acidemia Fatty acid oxidation disorders Organic acidemia



brosis but has only limited effect on pulmonary function.²³ In an ethnically diverse location such as California, newborn screening for cystic fibrosis has a major drawback: current methods do not enable identification of the full range of cystic fibrosis mutations. For example, about 40% of these mutations remain unidentified among the growing number of Hispanic infants born each year in the Golden State.²⁰

... noninvasive universal newborn hearing screening—can substantially lower the age at which congenital hearing loss is identified in children.

Between one in 1000 and one in 3000 infants is born with clinically significant hearing loss.²⁴ This figure is even higher among babies admitted to neonatal intensive care units.²⁴ Implementation of noninvasive universal newborn hearing screening—first instituted in Rhode Island—can substantially lower the age at which congenital hearing loss is identified in children.²⁵ At many testing centers, initial screening is done using evoked otoacoustic emissions (EOAE) to measure sound waves generated by ciliary movement within the cochlea: Miniature microphones placed in the infant's external auditory canal produce clicks or tone bursts to which the cilia respond.²⁴ Compared with the automated auditory brainstem response (ABR) test, which requires the infant to be in a quiet state, EOAE is easier to do but more frequently yields false-positive results (especially during the first 24 hours of life) as a result of debris in the ear canal or fluid in the middle ear.²⁴ Tracking and referral to an audiologist for definitive diagnosis is required for infants who fail the ABR test. Referral rates under 4% can usually be achieved when EOAE is combined with the automated ABR test or when the automated ABR test alone is used.²⁴

For quantitation of amino acids during newborn screening, tandem mass spectrometry (MS/MS) is more accurate than most current methods and thus detects phenylketonuria, MSUD, and homocystinuria more sensitively and specifically.²⁶ The screening menu for tandem mass spectrometry can facilitate identification of additional disorders not currently included in screening panels. Among these disorders are medium-chain acyl-CoA dehydrogenase deficiency (a disorder of fatty acid oxidation) and glutaric aciduria type 1 (an organic acid disorder), both of which are relatively common disorders that are difficult to detect before onset

of symptoms and whose outcome is improved by early treatment.²⁶ Other forms of aminoacidopathy, organic acidemia, and disorders of fatty acid metabolism also can be diagnosed early with tandem mass spectrometry.²⁶ Although many of these inborn errors of metabolism (most of which are inherited as autosomal-recessive traits) are not yet treatable and thus might not fulfill conventional criteria for newborn population screening, early diagnosis can assist parents in planning for future children.²⁶ The California Department of Health Services' Genetic Disease Branch is conducting a pilot study utilizing MS/MS on newborn screening samples, and SCPMG's genetic testing laboratory recently installed a tandem mass spectrometer to facilitate the diagnosis of suspected metabolic disorders among individuals of all ages.

Conclusions

The future looks promising for perinatal screening. Use of biochemical markers (ie, PAPP-A, hCG, H-hCG) and measurement of the nuchal fold may make first-trimester screening for Down syndrome a desirable option. Addition of inhibin A to the AFP-hCG-unconjugated estriol panel will improve second-trimester detection of Down syndrome and lower the false-positive rate. For persons with a family history of cystic fibrosis and for susceptible populations based on ethnic backgrounds, voluntary screening for cystic fibrosis mutations has proved a valuable prenatal diagnostic tool. Researchers may soon be able to retrieve fetal cells from the maternal circulation to noninvasively conduct prenatal screening for fetal chromosome abnormalities and other identifiable disorders.

Newborn screening for cystic fibrosis has been shown to improve the nutritional status of affected infants and young children, and additional mutations related to cystic fibrosis are being investigated in diverse populations. Implementation of noninvasive, universal hearing screening for newborns is lowering the age at which children with congenital hearing loss are identified. Tandem mass spectrometry for newborn screening is more sensitive and specific than most current screening methods and is capable of detecting a greater variety of inborn errors of metabolism. Although some targeted diseases may not yet be treatable, early intervention can improve the outcome for many children with metabolic disorders and enable parents to obtain timely information about prenatal diagnostic options relevant for future pregnancies. ❖

... early intervention can improve the outcome for many children with metabolic disorders ...

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West Meets East: A Kaiser Permanente Mid-Atlantic Experience in Providing Adolescent Health Care

Introduction

Morbidity and mortality among adolescents during the past two decades have changed so much that the teenage youth of today face a major health crisis. This crisis requires that services designed for adolescents undergo a fundamental change in emphasis to direct more services toward primary and secondary prevention of major health threats.

The Guidelines for Adolescent Preventive Services (GAPS)¹ outlines a comprehensive set of recommendations that provides a framework for organization and content of these preventive services. Unfortunately, despite an alarming collection of public health statistics and cautionary recommendations, comprehensive adolescent programs are not always easy to develop and operate successfully. Moreover, these programs require continuous monitoring and support and sometimes must be customized to the teens served.

The need for intervention is underscored by these recent statistics:

- Eighteen percent of all US youth 12 to 17 years of age consume nicotine products;²
- Use of steroid drugs among eighth- and tenth-grade students rose from 1.8% (in 1996) to 2.9% (in 1999);³
- Suicide is the third highest cause of death among young people aged 15 to 24 years;⁴
- In 1999, almost half of high school teens reported being sexually active;⁵
- Despite an increase in intervention programs implemented during the past five

years, the pregnancy rate among teens in Northern Virginia, in 1999, remained virtually unchanged at 24.1 per 1000 females.⁶

On the basis of these statistics, health care plans and health care providers have been seeking ways to develop a better care model to address these needs.

This article discusses development of specialized health care services for adolescents served by Kaiser Permanente (KP) in its Mid-Atlantic Region (KPMA). The article discusses prerequisites and barriers to effective implementation of these services and includes suggestions for ongoing improvement of care. (This review describes only one KP Region's experience and does not attempt to provide a comprehensive review of the literature; nonetheless, a suggested reading list is included in addition to the references cited in the text.)

Development of KP Services for Adolescents

In 1955, KP San Francisco opened one of the first teen clinics in the country (Charles Wibbelsman, MD, personal communication).³ In 1986, KP expanded that care by opening a comprehensive teen center in Panorama City, California. The center is staffed by a multidisciplinary team that includes nurses, physicians specializing in adolescent medicine, a health educator, and a social worker. The center maintains a collaborative relationship with the department of obstetrics and gynecology and monitors pregnant and high-risk teens to

assure compliance with established standards of health care delivery and confidentiality.

***Suicide is the
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The KP Panorama City teen clinic is a separate waiting and treatment area within the pediatrics department (C Daniel Fuster, MD, personal communication).^b The clinic has its own health care practitioners and staff as well as examination rooms decorated and stocked to accommodate adolescent patients. Clinicians are trained in adolescent medicine and have panels that support this age group. The adolescent clinic has a schedule dedicated routinely to teen patients but will also accommodate overflow pediatric patients when warranted. Development of the teen clinic was inspired by previously existing clinics.

Because of differences in facility size, patient demographics, available resources and other budgetary considerations, each center must develop its own model for delivery of adolescent health care. Currently, the KP Medical Care Program operates more than 20 adolescent health clinics in California. These teen clinics include freestanding or separate facilities with their own space and resources as well as clinicians who serve adolescent patients within a pediatric department. These clinicians may offer teen services during specified sessions.

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health care.***

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... components essential to proper functioning of any teen clinic ... include confidentiality, privacy, a "teen-friendly" environment, and availability of educational materials geared to the needs of adolescents.

Table 1. Proportion (%) of available adolescent medicine appointments used in selected years in KPMA during development of teen program

Year	Number of used/available appointments (%) at center [no. of providers available]			
	1	2	3	4
1994	179/228 (78%) [1]	166/193 (86%) [1]	77/111 (69%) [1]	N/A [0]
1997	21/65 (32%) [0.5]	279/370 (75%) [2]	369/438(84%)[1.5]	132/152 (86%) [1]
2000	N/A [0]	42/52 (80%) [0.5]	373/730(51%)[0.5]	220/278 (79%) [1]

N/A = not applicable; no clinical specialist in adolescent medicine available at center

In the early 1990s, KP staff measured adolescents' satisfaction with both the health care delivered by physicians and the health care delivered at the teen clinic.⁷ These teens were compared with teens who had primary care providers and received care in a primary care department. Teens seen in a teen clinic were found substantially more likely to be satisfied with the care they received, and they also stated that they were more comfortable discussing sensitive issues.⁷

Before 1992, KPMA delivered health care to adolescents sporadically and informally: a few dedicated providers attempted to offer services to adolescents within an otherwise pediatric environment. In 1992, after working for several years in the KP Southern California Imperial Clinic of the Bellflower area, author Carol Forster, MD, identified a need for teen services within the KPMA Region and began to develop a teen clinic at her home center in Woodbridge, Virginia.

Translating the KP Bellflower model to KPMA was not easy: the patient demographics of the region indicated that a teen clinic located exclusively in one medical center would not serve a large portion of KPMA's teen population. Unless these teens lived near the medical center that contained the teen clinic, street traffic congestion and lack of adequate public transportation would prevent most teens from accessing the services. The scarcity

of trained, highly motivated clinicians interested in adolescent medicine also contributed to the decision to develop adolescent-oriented sessions within each medical center instead of providing care only at a central teen clinic.

Moreover, only five clinicians in the entire Northern Virginia area were identified as having sufficient motivation or training to provide specialized health care for adolescents, and these clinicians were already considered full-time staff of the department of pediatrics. Moving to a central location would also have required clinicians either to move or to endure a long commute to work. In addition, it would have left their home center short of staff. For these reasons, adolescent sessions were incorporated into the clinicians' schedules at their home medical centers so as to use existing examination rooms and clinical staff.

Dr Forster ensured that the teen clinic in Woodbridge closely mirrored those in California so that, like the other centers, the Woodbridge teen center would incorporate components essential to proper functioning of any teen clinic. These components include confidentiality, privacy, a "teen-friendly" environment, and availability of educational materials geared to the needs of adolescents. A dedicated staff nurse was able to monitor patients, contact them for follow-up care, and manage appointment requests. The close relationship between

nurse, doctor, and patient—and addition of a teen-only phone line—greatly assisted maintenance of confidentiality.

Within three years, the teen program at Woodbridge was expanded to several other centers and included organized sessions run by specialists in adolescent medicine. The expansion process was slowed by three factors: the need for sufficiently motivated adolescent medicine clinicians, the need to train staff, and the need to advertise the service to prospective patients. In 1995, KPMA had 250,000 Health Plan members and five clinicians trained in adolescent medicine; the region currently has 500,000 members—13% to 15% of whom are teens—and ten specialists in adolescent medicine.

Roadblocks to Success

When the KPMA teen program began, all appointments were booked by the staff and nurses at each clinical site. That procedure changed in 1995, when a central call center opened. Although intended to increase efficiency in providing services to teens, this structure did not consider several operational facts. An efficient, confidential teen program must include an easy, uncomplicated process of obtaining appointments with practitioners of adolescent medicine. The staff at the patient's home medical center is much more familiar with both the practitioners



and the patients and can quickly direct a teen patient to his or her adolescent medicine clinician. In addition, teen patients scheduling an appointment are more comfortable talking to someone they know. In a centralized appointment structure, the patient and scheduler are strangers. And the scheduler cannot personally know every clinician and his or her special skills, especially if staff turnover is high.

Percentage of appointments booked by adolescent patients at each teen center depends on number of appointments available and on availability of a clinician who practices adolescent medicine. As Table 1 shows, percentage of booked appointments dropped at each center when the provider of adolescent services was unavailable or had insufficient staff hours scheduled. This situation occurred in centers one and three in the year 2000, where both clinicians either left or had too few work hours scheduled. In addition, typical adolescent behavioral characteristics cause many booked appointments to be not kept, either because the problem has resolved or something the teen considered more pressing arose. Owing to the confidential nature of teen appointments, reminder notices or phone calls are rarely used, and this necessary situation increases the likelihood of missed appointments. Clinicians and other staff of teen clinics must therefore be vigilant with the appointment process, maintain availability of access, and devise creative ways to maintain confidentiality while ensuring that appointments are kept. For instance, cell phone numbers of teenaged patients can be used to remind them of their appointments or for other reasons (ie, instead of contacting them at the patient's residence number or ad-

dress). In a few rare cases, clinicians have called the teenaged patient's friend to notify the patient of laboratory results or to remind the patient about his or her follow-up appointments. These numbers are recorded in the computer callback system instead of in the permanent record.

Currently, providers of adolescent services within KPMA are also pediatric clinicians and hold teen clinics once, twice, or three times per week within the pediatrics department. Because most teen centers have only one clinician dedicated to providing services for teens, any pediatric staffing shortage may cause a need for increased pediatric coverage and thus result in cancellation of the adolescent clinics. Teen clinics may lack coverage also when their clinicians go on leave. In addition, because only one or two clinics can be offered each week, the teen clinic schedule may not fit the needs of individual patients for appointments. The KP California model allows for an adolescent medicine division, or subdepartment, that operates within the pediatrics department to treat teens continuously on a set schedule (Richard Boise, MD, personal communication).^c As in those KP California clinics that mainly serve pediatric patients, limitations on adolescent medicine scheduling in KPMA limit teens' access to specialized adolescent services. In the ideal scenario, the teen and pediatric schedules would be flexible and allow cross-coverage for each. Structuring the adolescent medicine subdepartment as a separate entity enables specially designated teen clinics and focuses advocacy for better teen care.

Another difficulty in developing teen clinics is that many estab-

lished pediatricians are not highly motivated to practice adolescent medicine. This resistance may result from lack of support or education in this specialty or to discomfort interacting with this age group. Pediatricians need more expertise in adolescent health care if adolescent medicine services are to be provided and the GAPS recommendations are to be realized. Medical and nursing schools are striving to increase their students' exposure to issues of adolescent health. We would like physicians and nurse practitioners to be actively recruited for participation in teen clinics as is done at some KP California facilities.

Essential Components of a Successful Adolescent Clinic

Developing a successful adolescent clinic requires a thorough understanding of the "generation gap" between pediatric and teenaged patients: teens are not interested in Humpty Dumpty; instead, they like Eminem. They do not watch Barney the Purple Dinosaur; they watch MTV. And herpes rash—not diaper rash—is likely to be one of their concerns.

Many basic components of a successful, effective teen clinic (eg, confidentiality, privacy, a "teen-friendly" environment, and availability of accurate health information) have been reviewed elsewhere and are outlined in detail in the GAPS guidelines.¹ In addition to these components, the KPMA team has found that other aspects are essential to success.

First, the local administration at each clinical site must support the project by providing space and materials as necessary and by allowing the practitioners of adolescent services to craft the teen pro-

Owing to the confidential nature of teen appointments, reminder notices or phone calls are rarely used ...

Teens are not interested in Humpty Dumpty; instead, they like Eminem.

... any teen who seeks a pregnancy test from the laboratory is quickly referred to a practitioner of adolescent medicine or to the staff nurse in the adolescent medicine department for advice and counseling

gram. Second, clinician schedules must include sufficient time to provide adolescent care, including adequate time per patient. This time must be reserved for care of teenaged patients and must not be available for use by the general pediatrics department for its nonteen patients. Indeed, conflicts regarding access are inevitable when pediatric and adolescent medicine departments share resources and one department asserts that its needs are greater than those of the other department.

In most situations—and especially during emergencies and traditionally busy times—clinicians are most willing to be flexible to meet the needs of patients, regardless of their age. The teen clinic could be filled prior to the day of the clinic, for example, by pediatric physical examinations. Having specially designated teen appointments may help with unused teen appointment slots becoming available to other pediatric patients on the day of the clinic. An adolescent medicine division (subdepartment within pediatrics) would strongly support and promote these appointments.

... clinics in a prepaid medical care program are perfect sites for delivering adolescent health care.

Third, individual team members, nurses, aides, and clerical staff must promote the clinic, adhere to confidentiality and privacy guidelines, and expedite service to patients. Clerical and nursing staff at the clinic can also promote it by referring patients to the team primarily responsible for delivering adolescent health care.

In many respects, clinics in a pre-

paid medical care program are perfect sites for delivering adolescent health care. Because patients are not billed directly for services, the adolescent's care remains confidential. Private callback lines allow questions and results to be discussed privately between clinician and teen.

West Meets East: Resultant Modifications

After successfully identifying barriers to successful operation of a teen clinic, KPMA practitioners of adolescent medicine have modified their operational structure to improve access to adolescent care as well as attendance at scheduled appointments.

At each teen center, clinicians monitor the teen clinic schedule weekly. They refer teen patients whom they have seen during pediatric sessions to the teen clinic by word of mouth as well as by distributing and displaying flyers and brochures. Other office and clinical staff are also encouraged to refer teens to the clinic. Reminders are posted in clinical areas. Clinician schedules may sometimes be prospectively reviewed to identify prospective patients who were not aware of the clinic. Local school nurses are annually notified by phone and are sent flyers advertising the clinics. In addition, any teen who seeks a pregnancy test from the laboratory is quickly referred to a practitioner of adolescent medicine or to the staff nurse in the adolescent medicine department for advice and counseling—whether the test result is positive or not.

Using a computer tracking system, adolescent medicine practitioners and their nursing staffs keep a callback file to remind teens of the need for follow-up appoint-

ments, health assessment visits, immunization, Pap smears, and prescription refills.

Because most of the clinic rooms in KPMA are used primarily for pediatric patients, they are decorated accordingly. Staff in the adolescent medicine team “convert” those rooms before each teen session by swapping wall posters and by ensuring that appropriate teen health information is displayed for ready access. Unfortunately, no separate waiting rooms are available for our teens at this time.

The call center staff modified the appointment screen to add a pop-up message identifying the adolescent medicine clinic and available clinicians. Thus, whenever a teen calls for a medical appointment at that medical center, the call center staff is reminded of the availability of the adolescent appointments. Despite this reminder, adolescent patients are still not offered available teen appointments. Our task remains to educate the call center staff, as well as other KPMA clinicians about the importance of referring teens to the adolescent medicine clinic.

To improve access to the teen clinics, the adolescent medicine staff try to schedule adolescent sessions during hours when most teens are out of school (ie, late afternoon and evening). Adolescents over age 15 years can schedule their own appointments without parental permission.

Confidentiality is maintained by offering teens access to a separate “teen-only” callback line or callback nurse for obtaining laboratory results and further advice. Pap smear specimens and laboratory requests are specially marked to ensure that calls reporting results are not placed to the teen patient's residence if the patient has requested that the test



result be reported confidentially. All questionnaires are boldly marked as confidential, and the clinician reiterates this guarantee to the patient before beginning any interview with him or her.

Teens who seek birth control supplies (ie, condoms) are eligible to obtain special discounts, depending upon their insurance. Condom coupons are readily available in the examination rooms during all teen sessions and offer a discount rate on condoms purchased at the KP pharmacy. Depo-Provera may be prescribed so that the teen only has to pay the copay for the visit and medicine instead of the full prescription price. A three-month supply of oral contraceptives is filled to decrease overall cost to the teen. Unfortunately, the cost of contraceptives can be adversely affected by the member's benefit plan and can thus cause the teen to be less than fully compliant with the prescribed drug regimen.

In addition, because obstetric and gynecologic services are not available within the pediatric department, an obstetrician has been recruited at each medical center that conducts adolescent sessions.

This clinician serves as a resource person for the adolescent medicine practitioner. A nurse from the obstetrics and gynecology department also is used as a resource for pregnancy test counseling when no adolescent medicine practitioner is available.

In the past three years, the KPMA adolescent medicine team has become the largest group of teen moderators on KP's Web site, KPOnline. KPOnline moderators are trained clinicians who monitor the KPOnline discussion groups and answer questions from members about health care and behavioral issues. The KPMA team is seeking ways to improve the teen portion of the Web site to make it more "teen-friendly." Recently, the team surveyed teens to learn their perspective on how to improve the Web site.

In addition, many teens soon recognize the adolescent medicine practitioner as a resource. Despite the lack of available time scheduled for the teen clinic, once a relationship is established or teens become aware of the adolescent-directed services, the teens will seek out the adolescent medicine

practitioner during "pediatric" sessions. For this reason, many adolescents may find more satisfaction in the special skills of adolescent medicine practitioners than in any special decor or clinic.

Successes Achieved

One goal of improving health care for adolescents is to decrease unnecessary illness or injury as well as to improve overall physical and mental health via regular health checkups. Table 2 summarizes nonmedical hospitalization for a six-month period during 1995-1996. These hospital admissions included admission for pregnancy, delivery, or psychiatric inpatient treatment (eg, for drug abuse, suicidal inclination, depression). Of KP medical centers in Northern Virginia, center 2—site of the first formal adolescent program—had the lowest mean number of hospital admissions. Two other centers (one and three) also showed a slight decrease in this number after early 1995, when they began to offer teen sessions. We cannot explain the low incidence of nonmedical admissions among teenagers at center 5 at that

... many adolescents may find more satisfaction in the special skills of adolescent medicine practitioners than in any special decor or clinic.

Table 2. Monthly percentage^a of nonmedical hospital admissions among adolescent KPMA members at each of six KP teen centers during a six-month period spanning 1995-1996

Month	Teen centers					
	1 ^b	2 ^b	3 ^b	4	5	6
November 1995	50	64	100	100	71	100
December 1995	100	60	100	100	40	100
January 1996	57	33	80	100	50	100
February 1997	50	78	66	100	33	0
March 1998	100	58	76	50	63	78
April 1998	78	75	75	75	75	86
Mean for six months	72	61	83	87	55	77

Nonmedical hospital admissions include admission for pregnancy, delivery, antepartum care, depression, suicide, eating disorders, and drug abuse.

^aof all patients admitted to same hospital during same month

^bhad active adolescent teen services during this period

Barriers to effective delivery of adolescent care will probably always be present ...

Source of care primary/postpartum	No. with first pregnancy	No. with repeat pregnancy	No. (%) used postpartum birth control	No. (%) used postpartum birth control for ≥1 yr
Pediatric only	36	2	27 (75)	2 (5)
Combination/combination ^a	12	0	12 (100)	5 (41)
No primary/obstetrics	8	0	8 (100)	8 (100)
Teen clinic only	3	0	3 (100)	3 (100)
Total	59	2	44 (75)	18 (30)

^aCombination = patient seen by specialists in pediatric as well as teen care.

time (ie, when no adolescent sessions were offered at that center).

Another goal of adolescent health services is to decrease incidence of adolescent pregnancy. Although the birthrate among US teenagers dropped by about 13% during the past few years, the rate in Virginia dropped only by about 14%,⁸ and the rate in Northern Virginia was unchanged.⁶ Table 3 compares the pregnancy rate among teens seen in Northern Virginia KPMA clinics from January 2000 through December 2000. (During that period, 59 teen pregnancies were documented in the Northern Virginia area.) Across-column comparisons show types of primary care received by these teens before and after pregnancy. Not all patients completed pregnancy. Table 3 also shows percentage of patients who received some form of medically prescribed birth control after delivery and those who were continuing birth control at follow-up one year later. Obstetric care was not included as primary care unless that patient was seen only in the obstetrics and gynecology department after delivery and received no other health care from primary care resources.

Most adolescent KPMA members who became pregnant were seen

only by pediatric primary practitioners or received no primary care in the years before pregnancy. In addition, follow-up (which included visits for either obstetrics and gynecology or adolescent medicine care) also enhanced patients' compliance with continued use of prescribed oral contraceptives and affected the incidence of repeat pregnancy.

Conclusion

To address the increasing rate of high-risk behavior among our adolescent patients, to meet the GAPS guidelines, and to meet the Healthy

People 2010 goals, pediatric clinics must efficiently provide confidential health care for teenagers. Adolescent health care is a necessary service and can prevent unnecessary health care costs from injury, pregnancy, addiction, and other causes. However, caring for adolescents is not easy and requires ongoing commitment. Barriers to effective delivery of adolescent care will probably always be present, and each clinic must find ways to circumvent these barriers.

In addition, additional specialized training must be offered—and perhaps mandated—for other pe-

Practice Tips

Basic components of a successful, effective teen clinic include confidentiality, privacy, a "teen-friendly" environment, and availability of accurate health information.

Local administration at each clinical site must support the project by providing space and materials.

Clinician schedules must include sufficient time to provide adolescent care, including adequate time per patient.

Convert rooms before each teen session by swapping wall posters and by ensuring that appropriate teen health information is displayed.

Staff try to schedule adolescent sessions during hours when most teens are out of school.

Condom coupons are readily available in the examination rooms during all teen sessions.

Improve the teen portion of the Web site to make it more "teen-friendly."

Additional specialized training must be offered for other pediatric providers.



diatric providers so that cross-coverage is available when a practitioner of adolescent medicine is not available. Each region and clinic within KP will have to make additional changes in the structure and operation of their clinics on the basis of their own resources and needs.

High-quality adolescent health care can be provided within a busy pediatric clinic as a division, or subdepartment, within the pediatrics department. Indeed, the cost of constructing a special teen facility with its own space and trained staff would be prohibitive. By using existing space and interested staff, a medical center can add one or more adolescent sessions to its operations. Even in strictly economic terms, the money saved by preventing one unintended teen pregnancy, one suicide, or one trauma resulting from high-risk behavior would far exceed the work involved. Although incorporating an adolescent clinical session requires little money, restructuring does require work, thoughtful planning, and a substantial amount of ongoing support from medical center administration.

The KPMA adolescent medicine team is continually working to recruit additional adolescent medicine specialists and to retain existing teen services. Our efforts are evidently worthwhile, and we have enjoyed some success. We know that both vigilance and ongoing responsible planning will be necessary if we are to continue providing specialized services to our adolescent patients. But with the success we have realized and with an ongoing commitment to provide adolescent care, we plan to continue improving and expanding that care. ♦

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Richard Boise, MD, C Daniel Fuster, MD, and Charles Wibbelsman, MD, were interviewed about their perspective on Kaiser Permanente California Division pediatric team clinics.

... the money saved by preventing one unintended teen pregnancy, one suicide, or one trauma resulting from high-risk behavior would far exceed the work involved.



Posters for Clinic

In my practice, I have found that often the best way to make a point is not to state an observation outright but to ask a leading question. Sometimes that question is loaded, at times even provocative. However, a question gets people thinking and can bring them to the same conclusion, independently.

I've found that posters on parenting, smoking, or issues that concern primarily the parent seem to get attention and requests for copies to bring home to other family members. I'm not sure about the ratio of positive change to family arguments that I've started, but I do know that it's made at least a few people think.

Are Parents Important? Did you know:

Teens who do not smoke, use drugs, or abuse alcohol through age 21 are virtually certain NEVER to do so.

Teens who have never used marijuana overwhelmingly credit their PARENTS as the main influence in their decision.

The more often a family has dinner together, the less likely a teen is to smoke, drink, or use drugs.

Children in families that have dinner together only once a week are more than TWO TIMES more likely to smoke, drink, and use drugs than are families who eat dinner together every night.

Teens who fight more than they get along with their fathers are 68% more likely to smoke, drink, and use drugs than teens who get along well with their fathers.

- How often does your family eat dinner together?
- How often do you help your kids with their homework?
- How often do you attend their games or activities?
- How often do you go to parent meetings at school?
- How often do you give your kids praise or set limits?
- How often do you take them to a place of worship?

Be honest with yourself as you answer these questions.

If you feel that there's not enough time for family life, perhaps you need to reevaluate the time you spend at work or away from home?

Keep in mind that your children are your legacy and are much more important than any money or property that you will leave behind.

Invest well in them now, and it will pay off later.

So what are you doing for dinner tonight?

Data from a study by the National Center on Addiction and Substance Abuse at Columbia University. Califano JA Jr. America 2000 Jan 15-22;182(2):6-8. www.americapress.org.

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Stevens-Johnson Syndrome: A Case Study

Abstract

Physicians writing prescriptions for their patients must warn them about possible side effects. One such potential complication of drugs—including tetracycline—is Stevens-Johnson syndrome, a potentially fatal condition that manifests mainly on the skin and mucosal surfaces but also affects other vital organs. Many types of therapy have proved efficacious for treating the syndrome, but use of steroid agents for this purpose remains controversial. Care for patients with Stevens-Johnson syndrome consists of treating the presenting symptoms.

Introduction

Stevens-Johnson syndrome, otherwise known as erythema multiforme majus, is thought to represent a continuum of disease, the most benign type of which is erythema multiforme, whereas toxic epidermal necrolysis is the most severe.¹ The condition was first described in 1922 by Stevens and Johnson as a febrile illness with stomatitis, purulent conjunctivitis, and skin lesions.² The syndrome is generally described as vesicubullous erythema multiforme of the skin, mouth, eyes, and genitals.³

Case Report

A 14-year-old male patient presented to the emergency department complaining of four days of increasing dysphagia, dysuria, photophobia, and a macular rash extending from the trunk toward the extremities. The only medication used by the patient was tetracycline, which he had been taking for two weeks as treatment for facial acne. Vital signs were normal except for a temperature of 103.1°F. He appeared ill and had copious amounts of ocular drainage as well as small vesicles on the nasal and oral mucosa. An erythematous rash on his chest coalesced on the trunk with many small vesicles, some forming bullae. Vesicles were also present on the penis and scrotum.

The white blood cell count was slightly elevated at $11.7 \times 10^9/L$. Blood, herpes, and mycoplasma cultures as well as results of both rapid plasma reagin test and anti-DNA test were negative; and results of a skin biopsy were consistent with Stevens-Johnson syndrome. The presumptive cause was tetracycline. Empirical therapy with acyclovir was started but was discontinued after results of herpes culture proved negative. A regimen of 60 mg prednisone given intravenously twice daily was also started. When the oral lesions became so painful that the patient could not swallow his own saliva, a regimen of total

parenteral nutrition was started, and the patient was given a patient-controlled anesthesia pump for administration of morphine. As the vesicles spread, they coalesced into larger bullae and sloughed off. The skin lesions were treated twice daily with a mixture of urea and triamcinolone in a lotion base. Multiple chest x-ray films showed no pulmonary involvement. Because of his need for increasing wound care, the patient was transferred to the intensive care unit. Ophthalmologic and urologic consultation was obtained to address ocular and urethral symptoms.

The area of denuded skin increased, and this development required even more labor-intensive treatment; the patient was therefore transferred to the county burn unit for wound management. His condition improved during the next two weeks, and he eventually recovered with minimal scarring on the back. Follow-up continued on an outpatient basis in the ophthalmology, dermatology, and urology departments.

Discussion

Incidence and Course of Disease

Stevens-Johnson syndrome occurs most often in children and young adults.³ Incidence ranges from 1.2 to 6 cases per million per year; the condition is fatal in 5% of treated cases and in 15% of untreated cases.⁴ Stevens-Johnson syndrome can be preceded by a prodrome consisting of fever, malaise, sore throat,



Erythematous rash

... thought to represent a continuum of disease, the most benign type of which is erythema multiforme, whereas toxic epidermal necrolysis is the most severe.

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... some drugs administered for prodromal viral syndromes might have been falsely accused of causing Stevens-Johnson syndrome.

nausea, vomiting, arthralgias, and myalgias.⁵ This prodrome is followed within 14 days by conjunctivitis and by bullae on the skin and on the mucosal membranes of the mouth, nares, pharynx, esophagus, urethra, and vulvovaginal as well as anal regions.

Stevens-Johnson syndrome commonly affects multiple organs, and esophageal strictures develop in some patients.⁶ Ocular complications occur in about 70% of patients with Stevens-Johnson syndrome.⁷ Photophobia and a purulent form of conjunctivitis may be present initially, but corneal ulcerations and anterior uveitis can develop. Secondary infection, corneal opacity, and blindness can follow.⁵ Pulmonary involvement may first appear as a harsh, hacking cough,³ and chest x-ray films may show patchy areas of tracheal and bronchial involvement. The stomach and spleen can also be affected, and renal complications can occur in the form of acute tubular necrosis.⁵

Etiology

Medications appear to be the most common cause of Stevens-Johnson syndrome and have been implicated in as many as 60% of cases studied.⁵ Short courses of sulfonamide, aminopenicillin, quinolone, and cephalosporin drugs all increase risk of Stevens-Johnson syndrome.⁸ Longer-term therapy with anti-convulsant agents, oxycam, nonsteroidal antiinflammatory drugs (NSAIDs), or allopurinol has also been named as a possible cause of Stevens-Johnson syndrome.⁸ Even some chemicals, such as silver nitrite present in a wound dressing, have been implicated.⁹ Although many medications have been blamed, some

drugs administered for prodromal viral syndromes might have been falsely accused of causing Stevens-Johnson syndrome.

**... in up to half of cases,
no known cause can be found.**

Stevens-Johnson syndrome also has been linked to herpes simplex virus, mycoplasma bacterial species, and measles vaccine.¹⁰ Neoplasms and collagen diseases have also been pointed out as possible causes.⁵ However, in up to half of cases, no known cause can be found.⁵

Treatment

Treatment for Stevens-Johnson syndrome is as diverse as the symptoms but should begin by withdrawing any offending agent identified. Many skin lesions can be treated with any of various topical mixtures, such as wet Burrow's compresses.¹¹ However, extensive skin involvement requires the staffing provided by a major burn unit. Treatment consists of warming the environment, increasing caloric intake, preventing superinfection and sepsis, and correcting electrolyte disturbance.¹² Affected patients and their first-degree relatives should be instructed to avoid any identified drug or chemical that may be responsible.¹²

Ocular involvement can be treated with topical corticosteroid agents, artificial hydration, and antibiotic agents when indicated. Pain from oral lesions may be lessened by rinsing with viscous lidocaine. A 50% water-to-hydrogen peroxide mixture can be used to remove necrotic buccal tissue. Antifungal and antibiotic agents should be used for superinfection.¹¹ Balloon dilatation is sometimes indicated for treatment of esophageal strictures.¹³



Erythematous rash in progressed stages.





Oral or intravenous use of steroid agents has been controversial. Many studies showed beneficial effects of using steroid agents in adults^{14,15} and in children.¹⁶ One study¹⁷ suggested that mild to moderate disease can be managed with corticosteroid agents on an outpatient basis. Habib³ mentioned that other studies suggest no benefits with steroid use and that others suggest that systemic steroid use might be associated with delayed recovery and clinically significant side effects. Because of many possible causes and varying degrees of severity, testing of steroid use is extremely difficult.

Review of the medical literature showed no studies showing the efficacy of systemic acyclovir therapy used in herpes-induced Stevens-Johnson syndrome. One small study on prepubertal children showed that erythema multiforme was unresponsive to topical acyclovir.¹⁸

Although mild forms of erythema multiforme majus may resolve in two to three weeks, recovery from Stevens-Johnson syndrome may require two to three months, depending on the number of organs affected and the severity of disease.³

Conclusion

Stevens-Johnson syndrome is a potentially fatal multiorgan disease with a strong etiologic link to some medications. Physicians must therefore consider Stevens-Johnson syndrome as a potential complication of treatment, especially when use of medication is questionable. The multiorgan aspect of the condition is best addressed by early involvement of medical specialists. Treatment with steroid agents may be helpful, but this option remains controversial. Affected patients and their first-degree relatives should be instructed to avoid any identified drugs or chemicals that may be responsible. ❖

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Treatment with steroid agents may be helpful, but this option remains controversial.

Is Ceftriaxone Useful in Management of Fever Without Focus?

Background

I was recently asked whether and when ceftriaxone should be used in management of fever in young children for whom examination shows no source of infection. This question requires understanding of occult (or unsuspected) bacteremia in children. Occult bacteremia occurs in approximately 2% to 3% of febrile children aged six months to three years of age who have temperature $>102^{\circ}\text{F}$ ($>39^{\circ}\text{C}$).¹ To screen for occult bacteremia, we use two laboratory tests: complete blood cell count (CBC) and blood culture. If the white blood cell count is $>15.0 \times 10^9/\text{L}$ or if absolute neutrophil count is $>10.0 \times 10^9/\text{L}$, such children are at a slightly increased risk of bacteremia.^{2,3} Recommendations

generally suggest treatment with either amoxicillin or ceftriaxone. Ceftriaxone is favored by many practitioners because of its broad spectrum of activity and its long half-life. Is this approach reasonable?

Epidemiology

A helpful diagnostic approach is to first understand the epidemiology and natural history of occult bacteremia. Currently, in $>90\%$ of cases, bacteremia is caused by *Streptococcus pneumoniae*; in 3% to 5% of cases, by *Salmonella* species; and, rarely, by *Meningococcus*, *Staphylococcus aureus*, or other streptococci.⁴ *Haemophilus influenzae* B—formerly the second

most frequent cause of occult bacteremia and the leading cause of meningitis—has been nearly eliminated through vaccination. Before vaccination for *H influenzae* B was available, incidence of meningitis was estimated to be one case per 300 febrile children. Now that *H influenzae* B has been virtually eliminated, incidence of meningitis is estimated to be one case per 1000 to 1500 febrile children—a reduction of $>70\%$.⁵

**... in $>90\%$ of cases,
bacteremia is caused by
Streptococcus pneumoniae;
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by *Meningococcus* ...**

In comparison with that of *H influenzae* B, the natural history of *S pneumoniae*-related occult bacteremia is fairly benign. Spontaneous resolution of disease occurs in 85% to 90% of cases;⁶ and in 10% to 15% of cases, the result is secondary infection or persistent bacteremia (after >24 hours).⁷ Pneumonia, meningitis, osteoarthritis, and soft-tissue infection are the most common sites of secondary focal infection.⁴

Management

I will attempt to address three questions important for deciding on an approach to management of possible occult bacteremia:

1. *What is the risk of a bad outcome (ie, death or brain damage) in a child with occult bacteremia?*

Except for meningitis, all secondary infections caused by

S pneumoniae-related occult bacteremia result in generally good outcomes; and immunocompetent children almost never die of occult bacteremia. Unfortunately, however, meningitis develops in 2% to 3% of these children^{5,8} and causes clinically significant morbidity (30-40% neurologic morbidity) and mortality (about 5-10%).⁴ The risk of a bad outcome, therefore, is low (ie, one case per 2000-3000 febrile children).

2. *Do antibiotics reduce risk of secondary infection in *S pneumoniae*-related occult bacteremia?*

The answer to this question is yes. The rate of secondary infection in patients treated with antibiotic agents is reduced from a range of 10% to 15% (in untreated patients) to a range of 3% to 6% (in patients treated with oral or parenteral antibiotic agents, usually amoxicillin and ceftriaxone).^{1,4}

3. *Does use of antibiotic agents reduce risk of meningitis in patients with *S pneumoniae*-related occult bacteremia?*

This question is most important because bad outcomes (ie, death or brain damage) occur only with meningitis. Three metaanalyses^{5,8,9} have been published, including one⁹ supporting the contention that compared with no use of antibiotic therapy, use of antibiotic agents either orally (amoxicillin) or parenterally (ceftriaxone) decreases the risk of meningitis well and equally. A second study⁵ suggests a decreased trend toward meningitis in patients treated with oral antibi-

In our efforts to provide practical clinical information, we are introducing a new feature with this issue called *Corridor Consult*. We hope to give brief answers to specific common clinical questions. For those searching for further information on any topic covered, we will, wherever possible, provide links on our Web site: www.kp.org/permanentejournal to either the MEDLINE abstract or the original resource article in the reference section. The purpose of this feature is to help clinicians in their everyday practice. Those readers with suggestions of specific clinical questions to be answered or other comments can contact Scott Rasgon, MD, at *The Permanente Journal*, e-mail: permjournal@kpnw.org.



otics (2.7%) compared with the rate in patients who receive no treatment (0.8%), but this difference failed to reach statistical significance. A third study⁸ showed that rate of meningitis was identical whether antibiotic agents were administered orally or parenterally.

Conclusions and Recommendations

S pneumoniae accounts for occult bacteremia in >90% of children three months to three years of age; and this condition resolves spontaneously in 90% of affected children. Oral amoxicillin therapy or parenteral ceftriaxone therapy decreases rate of persistent bacteremia and secondary infection by about 60% to 70%. However, ceftriaxone is not superior to amoxicillin. Only one metaanalysis⁹ supports the conclusion that antibiotic therapy decreases rate of meningitis. Results of two additional metaanalyses^{5,8} suggest a decreased trend toward meningitis but failed to reach statistical significance. None of these studies show any difference in rate of meningitis among patients who receive oral antibiotic therapy with amoxicillin compared with patients who receive parenteral antibiotic therapy with ceftriaxone.

This information is probably all that we will ever know about occult bacteremia as we enter the era of Prevnar pneumococcal conjugate vaccine (Wyeth Lederle Vaccines unit of Wyeth-Ayerst Labora-

tories, Philadelphia, PA)—an era in which we will probably be able to reduce the rate of *S pneumoniae*-related occult bacteremia by about 90%. Before the advent of the *H influenzae* B conjugate vaccine, the incidence of meningitis was estimated to be one case per 300 febrile children of this age with temperature >39°C. Estimates suggest that if Prevnar is 90% effective, incidence of meningitis in the near future will be one case per 10,000 to 15,000 febrile children. We are on the verge of nearly eliminating meningitis in children; meningitis will increasingly be a disease seen mainly in adults.

We are on the verge of nearly eliminating meningitis in children; meningitis will increasingly be a disease seen mainly in adults.

Therefore, I believe that antibiotic treatment is unnecessary for febrile children at risk for occult bacteremia; however, health care practitioners who choose to administer antibiotic therapy will find that amoxicillin is as effective as ceftriaxone in these patients. ❖

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I believe that antibiotic treatment is unnecessary for febrile children at risk for occult bacteremia...

The Great Task

Accomplish the great task by a series of small acts.

Tao Te Ching

Evidence-Based Clinical Vignettes from the Care Management Institute: Major Depression

Introduction

Depressive syndromes are commonly seen in the primary care setting. Major depression affects 4.8% to 8.6% of the general US population in any given year; other types of depression affect an additional 3% to 8.4% of patients.¹ Total costs of depression, including direct medical costs and indirect costs due to days lost from work, exceed \$43 billion annually.^{1,2}

In the primary care setting, treatment of depression usually includes evaluation by a physician, brief patient education, and either antidepressant therapy, referral to a behavioral health specialist, or both a prescription and a referral. Although most depressed patients can be successfully treated by primary care clinicians, depression remains unrecognized or undertreated in many patients.

In 2001, the Kaiser Permanente Care Management Institute (CMI) revised its guideline for evidence-based care of depressed adult outpatients in the primary care set-

ting.³ This article and case example highlight key steps and recommendations from this guideline.

Case Example

A 28-year-old married, employed female computer programmer with two young children (one aged four years, the other aged nine months) is seen for a four-week history of fatigue, insomnia, headache, abdominal discomfort, and difficulty concentrating at work. She denies signs and symptoms of an acute infectious process and did not have headache or abdominal pain before the previous month. She is breastfeeding. She has obtained intermittent relief from headache by using acetaminophen, and she takes a multivitamin regularly. Normal menses has resumed. She is appropriately and professionally dressed, and her children accompany her in the examination room. She appears tired but in no acute distress. Results of physical examination, including neurologic screening, are normal.

How should you proceed toward making a diagnosis? What treatment options are available? How should you follow this patient over time?

Definition of Major Depressive Disorder

Major depressive disorder (MDD) is characterized by at least two weeks of *either* depressed mood or loss of interest in previously pleasurable activities⁴ along with four or more additional symptoms, including:

- guilt
- sleep disturbance
- psychomotor retardation or agitation
- appetite disturbance
- difficulty concentrating
- decreased energy
- suicidal ideation, intention, or plan⁴

The mnemonic device DIGSPACES is a helpful way to remember these key symptoms of MDD. Diagnosis and treatment of other types of depression (eg, adjustment disorder with depressed mood; dysthymia; minor depressive disorders; depression with psychotic features; and bipolar disorder) are beyond the scope of this article.

Who Should be Screened for Depression?

Patients with cancer,⁵ chronic pain,⁶ heart failure,⁷ diabetes,⁸ recent stroke,⁹ or a recent acute cardiac event¹⁰ have higher rates of depression than the general population. Elderly patients with multiple medical comorbidity may also be at increased risk for depression.¹¹ Patients with a prior history of MDD are at risk for recurrence.^{2,12} Other patients—those

Table 1. Instruments reviewed by the CMI Depression Guideline Group to screen for major depressive disorder (MDD) in adults

Two-question screening: ¹⁴ <ul style="list-style-type: none"> • “During the past month, have you often been bothered by feeling down, depressed, or hopeless?” • “During the past month, have you often been bothered by little interest or pleasure in doing things?”
Beck Depression Inventory (BDI) ¹⁵
Center for Epidemiologic Studies in Depression Scale (CES-D) ¹⁶
Depression Arkansas Scale (D-ARK) ¹⁷
Geriatric Depression Scale (GDS) ¹⁸
Outcomes Questionnaire 45 (OQ-45) ¹⁹
Primary Care Evaluation of Mental Disorders (Prime-MD) ²⁰
Patient Health Questionnaire (PHQ-9) ²¹
Quick Diagnostics Panel (QPD) ²²
Zung Self-Rating Depression Scale (SDS) ²³



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with multiple somatic complaints without known cause, women in the antenatal and postpartum periods, victims of domestic abuse, and HIV-positive patients—may also be candidates for screening.

Some evidence indicates that one-time screening of adults 40 years of age or older may be cost-effective from a societal perspective.^{1,13} However, screening of asymptomatic adults at low risk may result in many false-positive tests. Thus, clinicians should weigh the potential societal benefits of screening asymptomatic low-risk adults against other clinical and operational priorities (including depression screening of higher-risk patients).

Diagnosis of MDD

Several screening tools are available to assist clinicians in screening for depression (Table 1).¹⁴⁻²³ Many of these tools can be completed by the patient and easily scored by the clinician or by an assistant. These tools have similar false-positive and false-negative rates.^{20,22,24-32} A “yes” answer to one of the following two questions is as sensitive a screen for MDD as most of these screening tools.¹⁴

- “During the past month, have you often been bothered by feeling down, depressed, or hopeless?”
- “During the past month, have you often been bothered by little interest or pleasure in doing things?”

All positive screening results should be confirmed with careful attention to possible substance abuse, medical, and other psychological causes or comorbidity (Table 2). The patient in the above example denied using alcohol or drugs and denied current or past physical, sexual, or emotional

Concurrent psychiatric conditions	Concurrent medical conditions	Medication-related
Adjustment disorder Bipolar disorder Dysthymia Personality disorder Psychotic depression Posttraumatic stress disorder/abuse Seasonal affective disorder Somatization Substance abuse	Endocrine: hypothyroidism Cushing’s disease Central nervous system: Parkinson’s disease Alzheimer’s disease multiple sclerosis brain tumors Cardiovascular system: stroke myocardial infarction congestive heart failure Miscellaneous: rheumatoid arthritis AIDS pernicious anemia carcinoma	Antihypertensive/ cardiovascular agents: reserpine clonidine methyldopa digitalis hydralazine prazosin procainamide Sedative hypnotic agents: barbiturates chloral hydrate benzodiazepines Anti-inflammatory agents: indomethacin pentazocine opiates Steroids: corticosteroids Interferon

abuse; in addition, the complete blood cell count (CBC) and thyroid-stimulating hormone (TSH) level were normal. (TSH is measured to rule out hypothyroidism, a common postpartum condition that can cause depression.)

Assessing Severity of Depressive Symptoms

Symptom severity is an important guide to selecting proper treatment for MDD. Many depression-screening instruments provide a range of scores corresponding to mild, moderate, and severe depression. Patients with five or six symptoms of MDD who have slightly impaired daily functioning are mildly depressed. Patients with six or seven MDD symptoms and moderately impaired daily functioning are moderately depressed. Patients with eight or nine MDD symptoms with profoundly im-

paired functioning in daily activities or suicidal intention or plans are severely depressed.

Assessing Suicidal Ideation

All depressed patients, regardless of illness severity, should be screened for suicidal ideation. Many patients with depression have thoughts of suicide; asking “Have you thought about taking your life?” does not make patients more prone to attempt suicide. Patients with current suicidal ideation should be asked about their intentions (“Do you think you will commit suicide?”) and if they have a plan (“Have you thought about how you would kill yourself?” “Do you plan to kill yourself? If so, when?”). Clinicians should elicit a promise from actively suicidal patients not to harm themselves and should assess adequacy and availability of patient support systems

... asking “Have you thought about taking your life?” does not make patients more prone to attempt suicide.

(family, friends, and clergy). A behavioral health specialist should be contacted immediately in these cases. Risk factors for suicide include: recent loss; medical hospitalization within the past year; history of psychiatric hospitalization or suicide attempts; living alone; severe vegetative symptoms; severe hopelessness; comorbid substance abuse; and other comorbid psychiatric conditions. Patients with these risk factors should be closely monitored.³³⁻³⁶ Although men are statistically more likely than women to successfully commit suicide, women attempt suicide more often.³⁷

Treatment of MDD Medication vs Psychotherapy

For most mildly or moderately depressed adult primary care outpatients, medication and psychotherapy are equally effective,³⁸⁻⁴¹ although psychotherapy might be slower to take effect.^{40,41} A shared decision-making approach describing the pros and cons of each option should be used with these patients to help them select initial treatment options consistent with their values and concerns. One study⁴¹ found that patients who select psychotherapy achieve better outcomes than patients who are "assigned" to it. Another study⁴² found that patients of different cultural backgrounds often prefer psychotherapy to medication. A shared decision-making approach in patients with other conditions has been shown to improve patient knowledge and to decrease patient uncertainty about type of treatment.⁴³⁻⁴⁵ This approach can also help instill a sense of control in depressed patients, who often feel "lost" as a result of their depression.

Severely depressed patients may respond better to medication than

psychotherapy⁴⁶ and may respond better to the combination of medication and psychotherapy.^{46,47} Consultation with a psychiatrist or other behavioral health specialist is recommended for severely depressed patients seen in the primary care setting.

Types of Antidepressant Medication

All antidepressant classes appear to be equally effective in depressed patients regardless of their age⁴⁸ and regardless of whether they are affected by any of the following conditions: diabetes,^{49,50} cancer,^{51,52} recurrent, chronic, or refractory depression;⁵³⁻⁵⁹ or mixed anxiety and depression.^{59,65} The CMI Depression Guideline group did not find high-quality studies comparing the effectiveness of different antidepressants in patients of different ethnic groups.

In the first six to 12 weeks of therapy, selective serotonin reuptake inhibitors (SSRIs) are somewhat better tolerated than tricyclic agents (TCAs) (number needed to treat, 20-33).^{66,67} Risk of death by overdose is greater with TCAs than with SSRIs, although rate of suicide from all causes does not differ on the basis of type of antidepressant.^{59,68,69} However, given the lethality of TCAs when overdosed, the CMI guideline workgroup strongly recommends that TCAs be avoided by patients who are suicidal. Antidepressant agents have different side effect profiles that clinicians should consider when prescribing for patients with other comorbidities; patients may express a preference for a type of medication on the basis of discussing class-specific side effects with the clinician.

Patients successfully treated for depression with a particular anti-

depressant in the past should be offered that agent again. Partly on the basis of favorable pricing obtained from the manufacturer, fluoxetine is now Kaiser Permanente's preferred SSRI.

Hypericum (St John's wort) has been shown to be as effective as low-dose TCAs or SSRIs in treatment of mildly depressed adults and is better tolerated than TCAs.^{59,70-75} However, the CMI depression guideline workgroup has several concerns regarding the trials studying St John's wort, including difficulty in blinding as well as lack of standardized preparations across trials. The US Food and Drug Administration (FDA) does not regulate St John's wort, and the amount of active ingredient may vary widely between and within brands. For these reasons, the CMI guideline workgroup recommends caution in prescribing St John's wort for treatment of depression. Clinicians should consider discussing these concerns with patients who wish to use St John's wort. This substance should not be used in combination with other antidepressant agents.

Treatment Phases and Follow-up

Acute Phase

The acute phase of treatment for MDD is defined as the period extending from the start of treatment that achieves symptom remission for a period of three months. No scientific evidence suggests an optimal frequency of follow-up during the acute phase, but Health Plan Employer Data Information Set (HEDIS) criteria require three follow-up contacts (including one face-to-face contact with a prescribing provider) in the first 12 weeks of treatment.⁷⁶ The risk of patients discontinuing treatment is



highest in the first months of treatment;⁶⁷ therefore, follow-up is needed to assess patient adherence to therapy, symptom remission, and, if medication is chosen, presence of worrisome or unacceptable side effects.

... patients who select psychotherapy achieve better outcomes than patients who are "assigned" to it.

Several options are available for patients who do not achieve symptom remission within 6 to 12 weeks. The diagnosis should be reevaluated, and possible presence of other untreated comorbid conditions should be considered. Adherence to treatment regimen should be assessed and reinforced. Dosage of medication may be increased or the medication can be changed. Psychotherapy and medication can be combined, or a second, low-dose antidepressant from a different class can be added. At this point, referral to a behavioral health specialist is also an available option for patients who do not respond to prescribed medication.

Continuation Phase

After the acute phase has ended, patients should continue treatment for an additional 4 to 12 months. Terminating treatment sooner is associated with early recurrence of symptoms.⁷⁷ No available data exist to suggest an optimal frequency of patient follow-up during the continuation phase. The CMI guideline panel consensus opinion recommends at least one follow-up during the fifth or sixth month of treatment to assure continued remission of symptoms and

patient adherence to treatment as well as to determine necessity of adjusting treatment. More frequent follow-up can be scheduled on the basis of clinical judgment and patient preference.

Discontinuation

After successfully completing treatment in the acute and continuation phases, patients for whom the treated episode was the first should be offered a trial of medication discontinuation.¹² Fluoxetine regimens of less than 20 mg daily can be stopped; higher fluoxetine doses and other medications should be tapered over a two- to four-week period.^{78,79} Because a single episode of MDD is associated with a 50% lifetime risk of recurrence,² patients with MDD should be educated about this risk and instructed to call their clinician at the first signs or symptoms of re-

current MDD. Data suggest that risk of recurrence is highest during the first year after medication is discontinued.¹² The CMI guideline panel suggests that patients be reassessed three months after discontinuing medication and again at 12 months.

Maintenance

Patients who have had three or more episodes of MDD have a 90% lifetime risk of recurrence after medication discontinuation.² Studies^{12,80} suggest that continuing medication for at least five years is beneficial for these patients because it decreases risk of relapse. No available data exist to suggest an optimal frequency of patient follow-up during maintenance treatment. The CMI guideline recommends at least one annual contact with the patient to detect symptom relapse and to determine need for treatment adjustment.

Table 3. Script for explaining the diagnosis of depression to patients
"Depression isn't all in your head, and it's not a personal failing. It's a real illness caused by imbalance of chemicals in your body—just like diabetes. In diabetes, your body chemicals get out of balance and can't control your blood sugar. In depression, chemicals in your brain get out of balance, and it affects the way you think, act, and feel."

Table 4. Patient instructions for taking medication
It's important to take your medication every day as prescribed.
Antidepressants must be taken for two to six weeks to see a noticeable effect on depressive symptoms.
It's important to take your medication even after you feel better or else your depression can quickly come back.
Antidepressant medication must be taken for a <i>minimum</i> of 7-12 months.
Most side effects are temporary and resolve within a few weeks. (Give specifics on how to manage specific side effects). Call if you have any side effects that concern you or you cannot tolerate.
Do not stop taking this medication without checking with your primary care doctor or a prescribing clinician.

Adapted by permission of the publisher (<http://lww.com>) and author from: Lin EW, Von Korff M, Katon W, et al. The role of the primary care physician in patients' adherence to antidepressant therapy. *Med Care* 1995;33(1):67-74.⁸²

No evidence is available to indicate the best therapeutic approach (maintenance vs discontinuation) for patients who have had two episodes of MDD. Expert opinion⁸¹ suggests that if these patients have a history of suicide attempt, substance abuse, or psychiatric comorbidity, they should continue maintenance therapy. For patients experiencing their second episode of MDD without these types of comorbidity, a shared decision-making approach should be used for selecting maintenance or discontinuation of treatment. For these patients, the lifetime risk of MDD recurrence is approximately 70%;² therefore, these patients should receive both follow-up and patient education on symptom relapse.

Patient Education

Despite a trend toward increasing acceptance, many patients still feel stigmatized by the diagnosis of MDD. Therefore, clinicians should explain to these patients that MDD is a real illness and is not “all in their head.” Comparison with diabetes may be helpful (Table 3). Patients choosing medication

should be informed about side effects and given instructions designed to enhance compliance with prescribed medication regimens (Table 4).⁸² Patients should also be educated about the signs and symptoms of relapsing or worsening depression.

Specialty Referral

The CMI Depression Guideline workgroup recommends referral or consultation with a behavioral health specialist for the situations listed in Table 5.³

Case Example—Diagnostic and Treatment Approach

In addition to sleep disturbance, decreased energy, and difficulty concentrating, the patient in the above example admitted being sad and tearful as well as feeling guilty and worrying about her parenting skills, and she had lost interest in socializing. She also admitted to worrying about work performance and being somewhat irritable with her husband. She was not suicidal and had no prior history of depression or other psychiatric illness, but she thought her mother may have been depressed. Other medical comorbidity was excluded, and she was diagnosed with MDD, first episode, with secondary anxiety (not meeting criteria for generalized anxiety disorder). After participating in a shared decision-making approach, she selected pharmacotherapy with a SSRI and started fluoxetine, 10 mg daily, the next morning. At two-week follow-up, her depressed mood and energy were “50% better,” but she was still having trouble concentrating and sleeping and was still irritable. The dose of fluoxetine was increased to 20 mg in the morning, and 50 mg of trazodone was added at bedtime. At six-week fol-

low-up, she was sleeping better, and her depressed mood and guilt about parenting were “almost gone.” Her energy was “returning to normal,” but she still worried about her work performance and reported having continued irritability with her husband. She elected not to change her medication regimen or to add psychotherapy and, at 12-week follow-up, reported total symptom resolution.

She remained on medication, without further symptoms, for one year (three months of acute-phase treatment plus nine months of continuation-phase treatment). She was then offered—and elected—a trial of medication discontinuation. Follow-up calls at three weeks and at three months revealed continued absence of symptoms. During a health maintenance visit one year after medication discontinuation, she reported slight decrease in appetite as well as increase in worry and irritability, which she attributed to job stress. Repeat screening was not diagnostic for recurrent MDD or anxiety. The patient was reeducated on the symptoms of MDD and elected to monitor symptoms without resuming medication. At follow-up three months, six months, and 12 months later, the symptoms had resolved, and the patient remained in remission.

Conclusion

CMI recently completed an extensive, evidence-based revision of the adult depression guideline,³ which also discusses different cultural backgrounds, the elderly, and (briefly) depression among adolescents. The guideline group views the depression guideline as a work in progress: Future revisions will update current evidence and explore evidence in areas not cov-

Table 5. Consensus criteria for referral to a behavioral health specialist

Two months of treatment without desired clinical improvement
Active homicidal ideation
Active suicidal ideation
Bipolar or manic behavior
Counseling with or without medication
Difficulty adhering to treatment plans
Domestic violence
Failure to respond to second antidepressant
Lifelong/recurrent depressions
Partial response to medication
Psychotic symptoms
Significant alcohol/other substance abuse
Unclear diagnosis



ered in the current guideline. The full document will be available on the Permanente Knowledge Connection Web site: http://pkc.kp.org/national/cmi/programs/depression/DP_Guidelines.html. ❖

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Practice Tips
Screen patients for depression who have: <ul style="list-style-type: none"> • a history of past depression • cancer
Consider screening for depression patients who have any of the following medical comorbidity: <ul style="list-style-type: none"> • congestive heart failure • patients in the first three to six months after myocardial infarction, coronary artery bypass surgery, or angioplasty • patients three to six months after a cerebrovascular accident • chronic pain • patients over age 60 years, especially those with multiple medical comorbidity and when psychosocial conditions change
A number of depression screening instruments may be considered. Asking two questions (four-week duration of depressed mood or loss of interest in previously pleasurable activities) is a time-efficient and accurate method of screening. <ul style="list-style-type: none"> • Positive depression screening should be further investigated to appropriately diagnose and classify patients to determine appropriate treatment strategies.
All depressed patients should be assessed for suicidal ideation, intention, and plan.
Antidepressants and psychotherapy are equally effective for most mildly to moderately depressed patients seen in the primary care setting.
All classes of antidepressants are equally effective in treating depression.
Selective serotonin reuptake inhibitors (SSRIs) have a slight short-term advantage over tricyclic antidepressants (TCAs) in short term (6-12 weeks) adherence rates (number needed to treat = 20 to 33). Caution should be used in extrapolating these data to longer-term medication adherence rates.
Hypericum (St John's wort) should not be used for severely depressed patients.
Antidepressant medication should be continued through the acute phase (three months of treatment that achieves symptom resolution) <i>plus</i> an additional 4-12 months.
Patients with a history of one lifetime episode of MDD are candidates for a trial of medication discontinuation after symptom resolution following adequate acute and continuation phase.
Patients with a history of three or more episodes of MDD should be maintained on medication for a period of at least five years.

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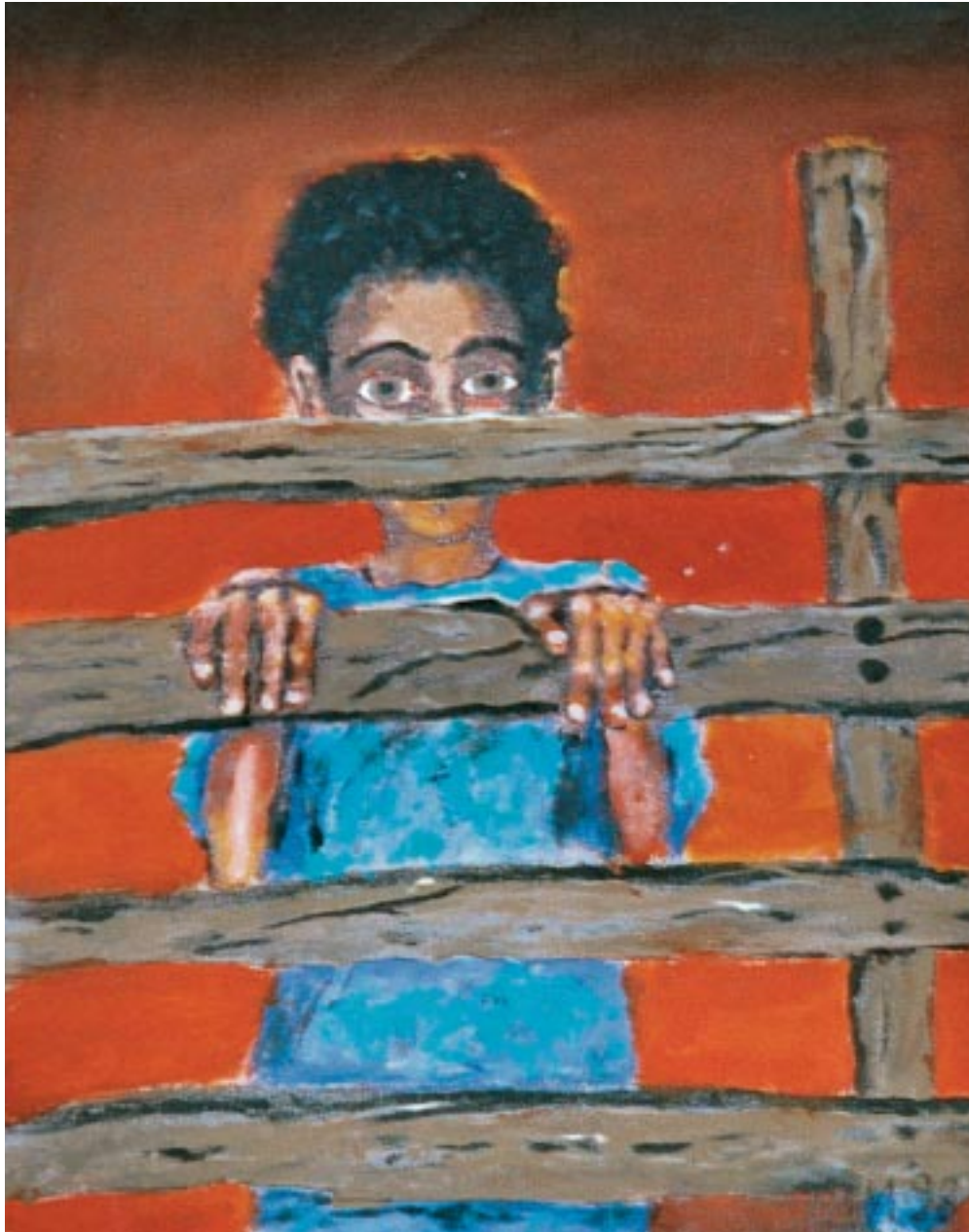
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Time

By losing present time, we lose all time.

W Gurney Benham, 1859–1944, Mayor of Colchester, England, 1892



***“At The Refugee Campus”
by Mohammed Osman, MD***

Dr Mohammed Osman recently retired from Group Health Cooperative to take on a lighter schedule, which will give him more time to pursue his artwork. He is a self-taught artist and credits his early life in Somalia and his medical background as major influences on his art. More information is available about Dr Osman in an upcoming profile in the March issue of “Diversion” magazine. More of Dr Osman’s artwork can be seen on his Web site: www.osmanart.homestead.com.

The Relation Between Adverse Childhood Experiences and Adult Health: *Turning Gold into Lead*

Background

The Adverse Childhood Experiences (ACE) Study is a major research study that compares current adult health status to childhood experiences decades earlier. With the cooperation of 17,421 adult Health Plan members and with the ongoing collaboration of Dr Robert Anda at the Centers for Disease Control and Prevention (CDC), the study is being carried out in the Department of Preventive Medicine at Kaiser Permanente (KP) San Diego—where for many years we conducted detailed biomedical, psychological, and social (biopsychosocial) evaluations of more than 50,000 adult Kaiser Foundation Health Plan members per year.

The findings are important medically, socially, and economically: They provide remarkable insight into how we become what we are as individuals and as a nation. The ACE Study reveals a powerful relation between our emotional experiences as children and our adult emotional health, physical health, and major causes of mortality in the United States. Moreover, the time factors in the study make it clear that time does *not* heal some of the adverse experiences we found so common in the childhoods of a large population of middle-aged, middle-class Americans. One doesn't "just get over" some things.

Study Design

The ACE Study was triggered by observations we made in the mid 1980s in an obesity program at the KP San Diego Department of Preventive Medicine. This program then had a high dropout rate. The first of many counterintuitive discoveries was that the great majority of the dropouts actually were successfully losing weight. Detailed life interviews of almost 200 such individuals unexpectedly revealed that childhood abuse was remarkably common and antedated the onset of their obesity. Many patients spoke openly of an association between the two. The counterintuitive aspect was that, for many people, obesity was not their problem; it was their protective *solution* to problems that previously had never been discussed with anyone. An early insight was the memorable remark of a woman who was raped at age twenty-three and gained 105 pounds in the subsequent year: "Overweight is overlooked, and that's the way I need to be." The contrast was striking between this statement and her desire to lose weight. Similarly, two men who were guards at the State Penitentiary became anxious after losing more than 100

pounds each. They made it clear that they felt much safer going to work looking "big as a refrigerator" instead of normal size. Overall, we found the simultaneous presence of opposing forces to be common; many of our weight program patients were driving with one foot on the brakes and one on the gas, wanting to lose weight but fearful of change.

In 1990 in Atlanta, I presented information about the frequent relation between obesity and abusive childhood experiences to a largely skeptical audience at the North American Association for the Study of Obesity. Unexpectedly, this presentation led to contacts with researchers at the CDC, who recognized the importance of what had been reported. They proposed a large epidemiologic study to provide definitive evidence of our clinical observations. This was the beginning of the ACE Study at KP San Diego, where, each year, we could easily ask more than 26,000 consecutive adults seen in the Department of Preventive Medicine if they would be interested in helping us understand how childhood events might affect adult health status. Sixty-eight percent of this population agreed to participate and understood that the information they provided about their childhood would never be included in their medical records.

The ACE Study compared current adult health status of these participants with eight categories of adverse childhood experience that we had frequently identified in the weight program. Three categories pertained to personal abuse: recurrent physical abuse, recurrent emotional abuse, and sexual abuse. Four categories pertained to growing up in a dysfunctional household—ie, with an alcoholic person or a drug user; where someone was in prison; where someone was chronically depressed, mentally ill, or suicidal; where the mother was treated violently; and where the parents were separated, divorced, or in some way lost to the patient during childhood. In addition, we decided to monitor this large cohort for at least five years to compare childhood experiences prospectively against adult pharmacy costs, doctor office visits, emergency department use, hospitalization, and death. An ACE score was constructed to analyze the huge mass of information we gathered. A person exposed to none of the studied categories had an ACE Score of 0; an individual exposed to any four had an ACE Score of 4, etc.

Because the average study participant was 57 years old, we actually were measuring the effect of child-

The counterintuitive aspect was that, for many people, obesity was not their problem; it was their protective solution ...



VINCENT J FELITTI, MD, is an internist, formerly doing infectious disease work, who created and ran, for its first 25 years, the Department of Preventive Medicine at Kaiser Permanente in San Diego. E-mail: Vincent.J.Felitti@kp.org.



... adverse childhood experiences are vastly more common than recognized or acknowledged.

hood experiences on adult health status a half-century later. Dr Anda, my coprincipal investigator at CDC, designed the data management and retrospective and prospective components of the Study with great skill. Here, I will only touch upon some highlights of our findings; details may be sought in the anchor article of a series of publications deriving from the ACE Study. The initial article was published in May 1998 in the American Journal of Preventive Medicine, v 14: 245-258; full text is at their Web site: www.meddevel.com/site.mash?left=/library.exe&m1=4&m2=1&right=/library.exe&action=search_form&search.mode=simple&site=AJPM&jcode=AMEPRE.

A list of published peer reviewed publications from the ACE Study is provided at the end of this article.²⁻¹¹

Findings

A striking finding was that adverse childhood experiences are vastly more common than recognized or acknowledged. Of equal importance was our observation that they had a powerful correlation to adult health a half-century later. It is this combination that makes them so important. Slightly more than half of our middle-class population of Health Plan members experienced one or more of the categories we studied. One in four was exposed to two categories of abusive experience, one in 16 to four categories. Given an exposure to one category, there is 80% likelihood of exposure to another. All this, of course, is well shielded by social taboos against obtaining this information. Further, one may "miss the forest for the trees" if one studies these issues individually. They do not occur in isolation; for instance, a child does not grow up with an alcoholic person or with domestic violence in an otherwise well-functioning household. The question to ask is: How will these childhood experiences play out decades later in a doctor's office? How does one perform reverse alchemy, going from a normal newborn with almost unlimited potential to a diseased, depressed adult? How does one turn gold into lead?

Smoking is a useful starting example to illustrate what we found; moreover, it allows us to start with a minimally threatening topic. In California, there are now profound social pressures against smoking; persistent smoking in the face of these is often attributed to "addiction." But did you know that current smoking has a high degree of association with what happened decades ago in childhood? Figure 1 is a graphic illustration of how the ACE Score has a graded, dose-response effect on the probability of current

smoking. The higher the ACE Score, the greater the likelihood of current smoking. This graded, dose-response effect is present for all the associations we found, although I will only present three. All the relations have a p value of .001 or better. Further details of the ACE Study findings are published in a series of articles exploring our findings from the retrospective and prospective arms of the Study.

Lest one doubt the significance of smoking, we found that chronic obstructive pulmonary disease (COPD) has a strong relationship to the ACE Score. A person with a midrange ACE score of 4 is 390% more likely to have COPD than is a person with an ACE Score of 0. What does this do to the conventional concept of smoking that attributes addiction to characteristics that are intrinsic within nicotine? We instead found "addiction" attributable to characteristics that are intrinsic in early life experiences. If early emotional stress predicts COPD, is COPD properly understood as a psychosomatic condition? Are certain common, chronic, adult diseases the result of attempts at self-treatment of concealed problems that occurred in childhood?

When we looked at self-defined current depression, we found that a person with ACE score ≥ 4 was 460% more likely to be depressed than a person with ACE score of 0. Confirming the reliability of this conclusion, we found a 1220% historical increase in attempted suicide between these two groups. For groups with higher ACE scores, incidence of attempted suicide increases thirtyfold to fifty-one fold! Using the analytic technique of population attributable risk, we

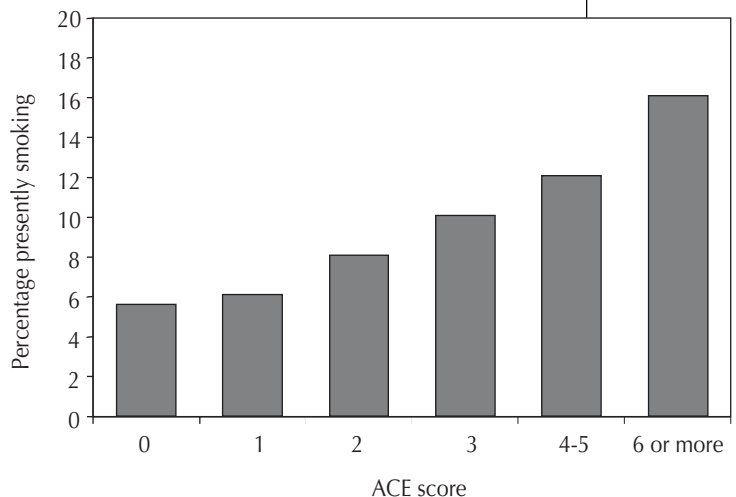


Figure 1. Graph shows relation between Adverse Childhood Experiences (ACE) Score and smoking status.

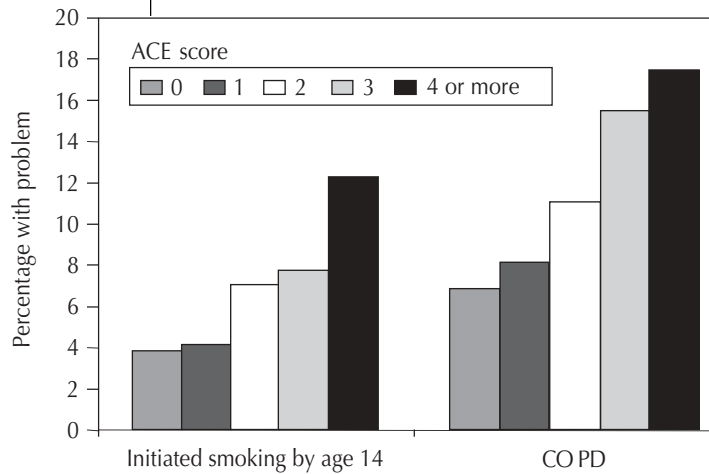


Figure 2. Graph shows relation between longtime smoking, chronic obstructive pulmonary disease (COPD), and ACE Score.

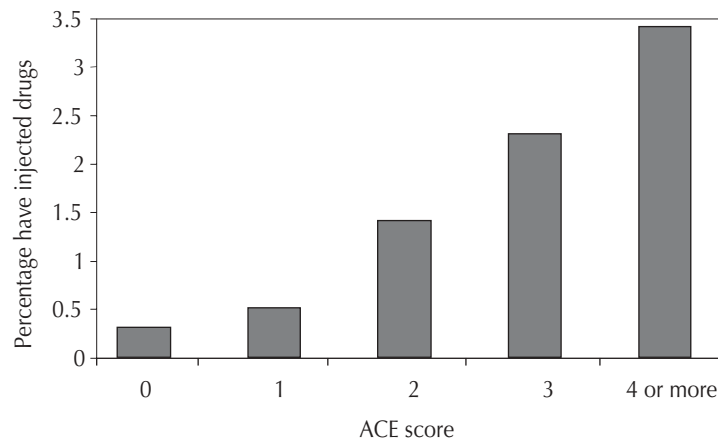


Figure 3. Graph shows relation between ACE Score and illicit use of injected drugs.

found that more than two thirds of suicide attempts could be attributed to adverse childhood experiences.

Intravenous drug use is a major public health problem. In spite of massive efforts to curtail it, little progress has been made. We found that IV drug use may properly be viewed as a personal solution to problems that are well concealed by social niceties and convention. For example, a male child with an ACE score of 6 has a 4600% increase in the likelihood of later using intravenous drugs. This relation to adverse childhood experiences is powerful and is graded at every step; it provides a perfect dose-response curve; and epidemiologically, these outcomes are nearly unique in magnitude. Because no one shoots heroin to get endocarditis or AIDS, might heroin then be used for relief of profound anguish dating back to childhood experiences? Might it be

the best coping device a person can find? If so, is this phenomenon a public health problem or a personal solution? How often are public health problems personal solutions? Is drug abuse self-destructive, or is it a desperate attempt at self-healing, albeit at a significant future risk? This point is important because primary prevention is far more difficult than anticipated—possibly because incomplete understanding of the benefits of so-called health risk behaviors causes these behaviors to be viewed as irrational acts that have only negative consequences. Does this incomplete view of drug abuse leave us mouthing cautionary platitudes instead of understanding the cause of our intractable public health problems?

Beyond these few illustrations, we found many other measures of adult health to have a strong, graded relation to what happened in childhood: hepatitis, heart disease, fractures, diabetes, obesity, alcoholism, occupational health, and job performance. These findings are detailed in the original and subsequent articles and will further be reported in publications of the yet-to-be-analyzed prospective arm of the ACE Study.

Discussion

What do these findings mean for medical practice and for society? Clearly, we have shown that adverse childhood experiences are both common and destructive. This combination makes them one of the most important, if not the most important, determinants of the health and well-being of the nation. Unfortunately, these problems are both painful to recognize and difficult to cope with. Most physicians would far rather deal with traditional organic disease. Certainly, it is easier to do so, but that approach also leads to troubling treatment failure and to the frustration of expensive diagnostic quandaries where everything is ruled out but nothing is ruled in.

Our usual approach to many common adult chronic diseases reminds one of the relation between smoke and fire. A person unfamiliar with fires would initially be tempted to treat the smoke—ie, the most visible aspect of the problem. What we have learned in the ACE Study represents the underlying fire. Fortunately, fire departments learned to distinguish cause from effect long ago; if they had not, they would use fans instead of water hoses.

If the treatment implications of what we found in the ACE Study are far-reaching, the prevention aspects are positively daunting. The very nature of the material is such as to make one uncomfortable. Why would one want to leave the relative comfort of tra-



ditional organic disease and enter this area of threatening uncertainty that none of us has been trained to deal with? And yet, as I write these words, I am interrupted to consult on a 70-year-old woman who is diabetic and hypertensive. The initial description given to me omitted the fact that she is morbidly obese (one doesn't go out of one's way to identify what one can't handle). Review of her chart shows her to be chronically depressed, never married, and, because we ask the question of 57,000 adults a year, to have been raped by her elder brother six decades ago when she was ten. The same brother also molested her sister, who also is said to be leading a troubled life.

We found that 22% of our Health Plan members were sexually abused as children. How does that affect a person later in life? What does it mean that early sexual abuse is never spoken of? We find it useful routinely to ask all patients acknowledging this experience, "How did that affect you later in life?"

What, then, is this woman's diagnosis? Is she just another hypertensive, diabetic old woman, or is there more to the practice of medicine? Here is the way we conceptualized her problems:

Childhood sexual abuse

Chronic depression

Morbid obesity

Diabetes mellitus

Hypertension

Hyperlipidemia

Coronary artery disease

Macular degeneration

Psoriasis

This is not a comfortable diagnostic formulation; it points out that our attention is comfortably focused on tertiary consequences far downstream. The diagnosis shows that the primary issues are well protected by social convention and taboo and points out that we have limited ourselves to the smallest part of the problem: the part where we are comfortable as mere prescribers of medication. Which diagnostic choice shall we make? Who shall make it? And if not now, when? ❖

This article, with minor change, was originally published in The Family Violence Prevention Fund's "Health Alert," Volume 8, No. 1. Adapted and reproduced with permission of the publisher, Peter Sawires.

Acknowledgments

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Selected ACE Study Publications

1. Felitti VJ, Anda RF, Nordenberg D, et al. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study. *Am J Prev Med* 1998 May;14(4):245-58.
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3. Weiss MJ, Wagner SH. What explains the negative consequences of adverse childhood experiences on adult health? Insights from cognitive and neuroscience research. *Am J Prev Med* 1998 May;14(4):356-60.
4. Anda RF, Croft JB, Felitti VJ, et al. Adverse childhood experiences and smoking during adolescence and adulthood. *JAMA* 1999 Nov 3;282(17):1652-8.
5. Dietz PM, Spitz AM, Anda RF, et al. Unintended pregnancy among adult women exposed to abuse or household dysfunction during their childhood. *JAMA* 1999 Oct 13;282(14):1359-64.
6. Hillis SD, Anda RF, Felitti VJ, et al. Adverse childhood experiences and sexually transmitted diseases in men and women: a retrospective study. *Pediatrics* 2000 Jul;106(1):E11.
7. Edwards VJ, Anda RF, Nordenberg DF, et al. Bias assessment for child abuse survey: factors affecting probability of response to a survey about childhood abuse. *Child Abuse Negl* 2001 Feb;25(2):307-12.
8. Edwards VJ, Fivush R, Anda RF, et al. Autobiographical memory disturbances in childhood abuse survivors. In: Freyd JJ, DePrince AP, editors. *Trauma and cognitive science: a meeting of minds, science, and human experience*. Binghamton (NY): Haworth Press; 2001. Published simultaneously as a single-topic issue of *J Aggression Maltreatment Trauma* Vol 4(2), No. 8.
9. Anda RF, Felitti VJ, Chapman DP, et al. Abused boys, battered mothers, and male involvement in teen pregnancy. *Pediatrics* 2001 Feb;107(2):E19.
10. Dube SR, Anda RF, Felitti VJ, et al. Adverse childhood experiences and personal alcohol abuse as an adult. *Addict Behav*. In press 2002.
11. Dube SR, Anda RF, Felitti VJ, et al. Exposure to abuse, neglect and household dysfunction among adults who witnessed intimate partner violence as children: implications for integrated health and social services. *Violence Vict*. In press 2002.
12. Dube SR, Anda RF, Felitti VJ, et al. Childhood Abuse, Household dysfunction, and the risk of attempted suicide throughout the life span. Findings from the Adverse Childhood Experiences Study. *JAMA* 2001;286:3089-3096.

... primary issues are well protected by social convention and taboo ...

A Patient's Personal Case Study of Adverse Childhood Experiences

Dear Doctor

This powerful letter is quite different from most usual clinical articles, and it is frankly painful to read. It should be considered a "case study," ie, an individual patient report. But this case study is written by a patient, not by a health professional. Dear Doctor has been reviewed by the Editorial Board, who agree that it is a unique accompaniment to "The Effect of Adverse Childhood Experiences upon Adult Health: Turning Gold into Lead" by Vincent J Felitti, MD. It makes the problem (ie, that health professionals often do not recognize the true, underlying basis for the problems they see) much more real and personally accessible.

This writing is strong, highly subjective, and poetic (even with a refrain). Once started, it should be read through to the end—or the essence might be lost. The reader (or, at least, this reader) must, at times, surrender scientific medical objectivity to try to understand how the lens of partial or incomplete comprehension by our patients can recreate what we say. Problems of communication (both ways) are actually the issue.

The writer is a woman who is not currently a Kaiser Permanente Medical Care Program member. The letter was signed. We do not like to publish anonymous articles and, in this instance, the issue of whether to leave in the signature occasioned repeated intense debate among the members of the Editorial Board. The author's words about the matter are memorable:

"I would like to have my full name used for the article. I no longer feel shame about the events of my life. The shame belongs to the perpetrators. Rather, I feel sorrow. They are people who need forgiveness, and I forgive them."

While we support the author's feelings and admire her courage, we have decided to withhold her identity to preserve the anonymity of any involved persons.

— Arthur Klatsky, MD, Editor

Dear Doctor,

I am your patient. We have known one another for a long time, and I want to thank you for healing me so many times.

At present, you know me only from annual checkups as a healthy 58-year-old, divorced, Caucasian female; 120 lbs, 5'6"; two adult children; parents and all four siblings living; family history of diabetes, epilepsy, alcoholism, bowel cancer, and heart disease; no medications.

You met me first in 1943 in Pennsylvania. I was a normal 5 lb 6 oz infant, born under general anesthesia. My mother nursed me for eight months, and I grew normally. You were surprised and concerned when I returned in six weeks for a well-baby check and immunizations. I had developed an extremely loud heart murmur, but you assured my worried mother no surgery was needed.

After I turned three, you saw me often in New Jersey, Virginia, Alabama, and Massachusetts. I had frequent, severe ENT problems, ear infections, strep throat, double pneumonia, scarlet fever, mumps, measles, chicken pox, "grippe" viruses, and a host of other pediatric problems. It is fair to say that sulfa and penicillin saved my life.

You may have noted in your chart that I was thin, compliant, and quite withdrawn. When I turned seven, you bandaged a deep cut on my thigh.

You surgically removed my tonsils and adenoids.

Later that year, you irradiated a regrowth of my adenoids. You also irradiated my enlarged thymus in a hopeful, experimental procedure. The hypothesis was that removal of the thymus gland would increase my immune system. Unfortunately, it had the reverse effect.

You probably made a note that I missed many months of school each year due to illness and that my lips and fingernails frequently turned blue. You x-rayed my teeth frequently and filled my numerous caries every year for decades.

I want to thank you for healing me so many times.

You met me at a medical convention when I was a shy, embarrassed 12-year-old. As a group, you examined my heart, amazed at

the murmur which could be heard without a stethoscope. You noted my thinness and suggested an enriched diet. You extracted four teeth for my braces.

When I was a pretty, studious, 14-year-old in Louisiana, you bound my fractured left arm to my body for six weeks after I was thrown from a horse. Later that year, you carefully put 167 stitches in my face after I was thrown face first through the passenger side of a non-safety-plate windshield during an automobile collision. Safety belts had not yet been developed. You told me it was a miracle my eyes were not damaged, because the glass cut through both eyelids. The following year in Texas, you removed the keloid scars, but I was no longer pretty. In fact, a priest who came to visit me in the hospital fainted when he saw me.

You treated me for acne.

You catheterized my heart before I went to college and found a persistent superior right vena cava, extra brachial arteries, and a valve defect. You told me not to climb mountains or go deep-sea diving.

You extracted my wisdom teeth.



You put me in a steam tent for a week in my Ivy League college infirmary for treatment of bronchitis. You treated me for severe dysentery (shigella) when I returned from my junior year in Europe. I had diarrhea all my life, so I did not call you until I was very ill. You told me how fortunate I was to be alive.

I was prevented from joining the Peace Corps due to the heart murmur.

Instead, I went to work in Central America after college graduation. While there, after I made a conscious decision to have my first love affair, you hospitalized me for a month. You explained I had a 50-50 chance of living and surgically lanced a severe pelvic inflammatory infection. Both fallopian tubes were closed due to scarring. You explained gently that I probably could not have children but that I was fortunate to be alive.

In my later 20s, in California, you treated me for a fractured bone in my foot, yeast infections, and more dental caries. After I biked up a mountain and had heart pains that radiated down my left arm, you reiterated the restriction not to climb mountains.

You told me I was fortunate to be alive.

You listened to me for a year as I wept for my younger sisters (I took the 14-year-old for an abortion and brought the 15-year-old to live with me due to severe anorexia). I am grateful you never prescribed medication for my grief. Through my employment, you taught me about biofeedback, which served to reduce my anxiety.

When I finally got the courage to fall in love again, you prescribed birth control pills, in case we were wrong about the infertility. You gave me a hysterosalpingogram that showed a tiny opening in one fallopian tube.

You gave me immunizations before I went to live overseas, then treated me for head wounds in Thailand when I was beaten up by a stranger. After I went deep-sea diving and had heart pains that radiated down my left arm at 50 feet below the surface, you

reiterated the restriction that I avoid deep-sea diving. You told me I was fortunate to be alive.

You didn't ask me, and I didn't think to tell you.

When I was 27, I received a letter from you about the radiation treatment 20 years before. You said I was at high risk for thyroid cancer due to the heavy dose to my throat area. You gave me a procedure that showed no cancer. It also showed I had only half a thyroid. I felt fortunate to be alive.

After I graduated from a master's program, you gave me a Wasserman test before my marriage at age 33. To our mutual surprise, you determined I was pregnant at age 37 and said I was probably carrying twins.

I stopped drinking alcohol the day you told me I was pregnant.

- I didn't tell you I drank too much and had blackouts.
- I didn't tell you every relative I had was probably alcoholic.
- I didn't tell you my husband drank every night and used nonprescription drugs with increasing frequency.
- I didn't tell you about his scathing comments and humiliating treatment of me, and how I couldn't seem to leave him.
- I didn't tell you I had joined Al-Anon, a support group for spouses, families, and friends of alcoholics.
- I didn't tell you I had smoked a pack of cigarettes per day for ten years until I was 36 years old.
- I didn't tell you about the daily headaches that stopped, along with the cravings for cigarettes, after ten biofeedback sessions.
- I didn't tell you that I worked part-time for many years because of fatigue, distress, and inability to concentrate.
- I didn't tell you I had left my faith practice for over two decades and felt lost and alone.
- I didn't tell you that, as a child, I was moved to a new house every other year.
- I didn't tell you that, as an adult, I

moved nearly every year in a vain effort to run away from my feelings.

- I didn't tell you about the fear, loss, and depression I felt, even when times were good.
- I didn't tell you about my suicidal ideation.
- I didn't tell you about my phobias of elevators, enclosures, injections, electricity, public speaking, and groups.
- I didn't tell you about the rage I felt when someone was maltreated.
- I didn't tell you that as a child I compulsively read everything I could find about the Holocaust.
- I didn't tell you how in adulthood, books on incest made me nauseous.
- I didn't tell you about the "covert" sex abuse by a family member who told me dirty jokes and gave me "funny" back rubs.
- I didn't tell you I had joined an incest survivors support group.
- I didn't tell you how spacey and jumpy I felt at times, especially when surprised.
- I didn't tell you about my frequent nosebleeds in childhood.
- I didn't tell you I kept a baseball bat by my bedroom door as a child.
- I didn't tell you about my terrible nightmares in childhood.
- I didn't tell you that I could not remember much of my childhood.

You didn't ask me, and I didn't think to tell you.

After several months, you determined through amniocentesis and fetal monitoring that there was only one healthy, male fetus. You kept careful track of my potential for diabetes and my loud heart murmur.

The pregnancy was unremarkable until seven months of gestation, when I developed high blood pressure and edema (which you diagnosed as preeclampsia), despite my good diet and high socioeconomic status. You put me on complete bed rest, but the water broke six weeks before my due date. After I labored for 12 hours, you did a Cesarean section with full anesthesia and delivered a healthy 2.2-kilo male child

with an APGAR score of 9. I remained in the hospital for five days, although my son remained in an incubator for another five days. He had severe colic but was otherwise healthy. I nursed him for a year.

Twenty months later, again due to preeclampsia, you put me on complete bed rest at seven months, gestation during my second pregnancy. You scheduled me for a second Cesarean, and I delivered a healthy 6 lb, 7 oz, full-term female child.

We met frequently thereafter. My physical health deteriorated from stress as I turned 40 years old with a nursing infant and a toddler. You treated me for bronchitis, "flu" viruses, and a severe breast infection that brought an end to breast-feeding my one-year-old daughter.

I met you again because I could not swallow due to canker sores. You suggested prednisone, which I declined due to side effects. You biopsied tissue on my cervix, breast, ear, and back. You used the term "precancerous cells" but explained that surgery was not needed yet.

I met your colleague, a PhD nutritionist, through the phone book yellow pages and began an intensive vitamin regime that reversed all my symptoms after six months. I knew I was fortunate to be alive.

You immunized my children and treated them for frequent ear infections and sore throats. You treated my son at age four for a strange rectangular patch on his foot, which you diagnosed as cellulitis. You treated my daughter at age four for a kidney infection. After catheterizing her, you found a valve defect between her bladder and kidney.

You examined me when I had a ten-minute episode of intense pain in my vaginal area. You found nothing physically wrong.

You listened patiently as I wept about my failing marriage and alcoholic father and encouraged me to move on. After my divorce, you treated me for pneumonia.

You removed my uterus and ovaries after I bled for two years. You told me I had fibroid tumors. You gave me light general anesthesia for this surgery because I finally told you I was a recovering alcoholic and

my body was very sensitive. You listened to my grief at the end of my miracle of child-bearing. You prescribed estrogen and ten years later stopped the prescription because of the potential side effects.

You gave me annual general medical checkups, mammograms, colonoscopies, Pap smears, and blood tests. You continued to monitor my heart murmur with annual specialty examinations, electrocardiograms, and echocardiograms.

During my occasional bouts of angina, you would conduct a stress test but could find no reason for the pain. I was not able to buy life insurance because I was a high-risk patient. You were as mystified as I by the occasional sharp pains I felt in different parts of my body, and odd brief periods of malaise.

In 1988, after another automobile accident, you flushed my eyes to remove the glass that flew from an exploded mirror. A car had crossed the highway median and hit mine with such momentum that the other car flipped twice and landed upside-down. You patched my left eye and later found a corneal scar. You commented that I was fortunate to be alive and still sighted and prescribed glasses so I could see more clearly.

***Then, in 1989,
my life turned upside-down.***

Then, in 1989, my life turned upside-down. My postdivorce life finally settled down, and my children began elementary school. I decided to look for the reason for the extensive childhood amnesia and why I felt so miserable despite my comfortable lifestyle. For the first time, I told you about the amnesia and asked you for hypnosis. I then began having frequent nightmares of dying animals and killing fields. Fortunately, you did not prescribe sleep medication.

For therapy, I found a nonphysician who specialized in treating sexually abused women. He did not believe in medicating emotional symptoms but rather, finding the source of the pain. This remarkable therapist, a former police investigator, understood

that amnesia occurs for a very good reason. He spoke gently, compassionately, and simply. He had good boundaries, strong ethics, and a spiritual understanding. He knew that his clients may feel fragile but are actually very strong.

He had a program of simple education about amnesia, dissociation, and the chemical changes that take place in the body during trauma, coupled with worksheets for his clients to complete. He led a support group, which I did not take part in.

***He knew that his clients may feel
fragile but are actually very strong.***

I told him about the experience I had at age seven, of being spanked with my pants pulled down. I explained I had talked about this event many times but never felt relief from the pain. I described a nightmare that plagued me, consisting of the sounds of the clink of a belt buckle and the zip of a zipper.

One pretty April morning in 1989, I went to the therapist's office. He led me through a relaxation exercise, instructing me to tense, then relax, each major muscle group. He then asked me to go to a well and find the child I used to be, nurture her, and ask her what happened. I did that and found myself as a distraught seven-year-old. I began talking about that day when I was spanked on my bare buttocks.

Suddenly, I began reliving the event. I refelt the sharp slaps. I saw the pants legs as my head hung down across the adult's knees. I refelt the humiliation and pain.

Then, just as suddenly, I stopped reliving the event. It felt as if I had pressed the "pause" button on an emotional and mental video of my life. I hung there, suspended in the midst of acute pain.

The therapist asked quietly, "Then what happened?" It felt as if I pushed the "play" button. I refelt being pulled up by my left arm, and heard the clink of a belt buckle and zip of a zipper. I refelt the terror as I was pushed to my knees, and the adult sat back down on the edge of the bed. I refelt his hand on the



back of my head as he pushed his penis into my mouth and moved my head back and forth. I retasted the ejaculate. I refelt being pushed to the floor, and left, like a used condom, as he went out of the room.

I gagged and wept uncontrollably. And finally, I felt relief from that event. It has not troubled me since that day. A hidden psychological abscess had finally been lanced, and my mind quickly healed itself.

This began a five-year therapy period, during which I was able to fill in many of those blank places in my childhood. Each week I would remember just a little more, no more than I could bear. Some days, I could only relive a few minutes of the past. The pain at times felt unendurable, but the therapist assured me that I would feel better. I would scream with rage and fear on the drive home from his office. That's how I healed from each remembered betrayal.

What I remembered was about my grandfather, who was a physician. He went to war when I was an infant and returned in 1946, when I was three years old. He then began to harm me in every way imaginable. Some of you will not want to believe this. However, children exposed to this kind of abuse are someone's daughters and sons and they will someday be someone's spouse, parent, and patient. Will you recognize them in your practice, or will you look away?

My therapist once wondered aloud why I was not committed to the back ward of a state psychiatric hospital. I answered, "I dissociate well." He and I agreed I was fortunate to be alive.

My therapist once wondered aloud why I was not committed to the back ward of a state psychiatric hospital.

I don't need to go into detail about the crimes and brutalities I endured. I'm sure you've seen patients who experienced similar events, although you may not have recognized them. My purpose is not to shock but to teach that children can display few

psychological symptoms; that the body takes the brunt of the psychosomatic effects in those of us who dissociate well.

The purpose of my letter is to tell you what happened a year after I began trauma recovery. I went to see you for my annual cardiology examination. You listened to my heart, as you had for the past four and a half decades in different countries, different states, different hospitals, and different offices. You listened again, not looking at me. Then you did a quick electrocardiogram and glanced at my thick file. And listened again, with a puzzled look on your kind face.

Finally, you looked directly at me and said, "There is no more heart murmur. I can't explain why. But you no longer need to see me for annual examinations."

I applied for a life insurance policy the very next day, which I continue to have as a talisman of healing. My physical health has been excellent, despite other life stresses, ever since I began unearthing the buried events from my childhood that broke my heart. The angina and sharp pains resolved as soon as I remembered the origin of those pains. My emotional health and sense of well-being improves daily.

A physician colleague of yours in the Southern California Permanente Medical Group found that the long-term medical consequences of incest, rape, and molestation are

- chronic depression
- morbid obesity
- marital instability
- high utilization of medical care
- gastrointestinal distress, and
- recurrent headaches.

He also found that the more adverse childhood experiences a person has endured, the higher the rate of

- alcoholism
- drug abuse
- depression
- suicide attempts
- smoking
- poor health
- high number of sexual partners
- sexually transmitted disease
- ischemic heart disease

- cancer
- chronic lung disease
- skeletal fractures, and
- liver disease.

His research is extraordinarily validating to me, since I have a majority of the after-effects he describes. I believe that by storing the traumatic memories well out of consciousness, my immune system collapsed, resulting in illness and structural damage. The stress of repeated trauma may indeed have blown a hole in my heart valve. By remembering, talking about, and grieving these events, I found that the intense psychological pressure was relieved and my body simply healed itself. Nature prefers homeostasis. Even broken hearts can heal.

Even broken hearts can heal.

At a child abuse conference in Sacramento in the early 1990s, the Psychologist, Dr John Briere, remarked that, if child abuse and neglect were to disappear today, the Diagnostic and Statistical Manual would shrink to the size of a pamphlet in two generations, and the prisons would empty. I agree. As physicians and particularly as pediatricians, you are in a position to help end this epidemic of child abuse. You must do so with great care, because perpetrators have gained inroads in the systems that are supposed to protect children. But you are in a unique position, and I encourage you to work together in this serious matter.

I am writing to thank the hundreds of you who treated me throughout my life, particularly when I was young. I am forever grateful for your concern for my health and well-being and for your gifts of antibiotics. I am even more grateful that you gave me biofeedback and relaxation as an adult rather than medication to blunt symptoms of my childhood trauma, so that the encapsulated, abscessed memories could surface and heal. I am, indeed, fortunate to be alive. ❖

... some real medical "limits" prove to be truly elastic around expansions and contractions of wealth and insurance status.

By Kate Scannell, MD, Editor
 Commentary by Stephen C Henry, MD

Medical Futility

The case and commentary are reprinted from Ethics Rounds, 10(2), 2001. KFHP Inc, and TPMG, Inc.

While our therapeutic armamentarium and scope of medical practice have broadened considerably since the time of the ancient Greeks, both the concept of medical "futility" and the argument about who defines it continue to be debated at a level that resonates with earlier articulations by Plato and Hippocrates. Both men argued that medical practitioners should recognize limits in applying their art and science. Relevant to modern-day discussions about health care resource allocation, they also maintained that it was a defining characteristic of a good physician to withhold therapeutic interventions when limits had been reached, regardless of the patient's ability to pay for them. Hippocrates advised his students "to refuse to treat those who are overmastered by their diseases, realizing that in such cases medicine is powerless."

Modern-day society continues to struggle with the old arguments about whether medical limits should be set, if the medical profession should decide when treatments are futile, and whether the scope of medical care that one actually receives should depend upon one's personal wealth. This macroscopic struggle also occurs in an era of rapidly expanding, life-sustaining technologies (like organ transplants and advances in cardiopulmonary life support) and, indeed, even life-creating capabilities (like cloning and stem cell work). These developments stretch the notions of both "medical limits" and "futility."

Meanwhile, on a clinical or "microscopic" level, patients and medical personnel routinely decide through highly individualized negotiations at the bedside which limits they will observe according to which treatment goals they choose to pursue, framing as "futile" whatever lies outside those limits. In these circumstances, "medical limits" and "futility" will be defined in highly individualized and diverse ways.

But what happens—as in the case that follows—when doctors and patients and/or their surrogates disagree about the meaning of futility and the appropriateness of limit setting? And while it has been pointed out that discussions about medical futility should be carefully separated from those concerning health care rationing and resource allocation, like Hippocrates, others have asked for a moral accounting that reflects the reality of the relationship between the macroscopic and microscopic dimensions of health care as it is actually made available.

While few people would openly advocate that medical care should be linked to a person's wealth or capacity to affect the distribution of health care resources, reality shows us that this often pertains. Health care access is unevenly distributed, and, as such, some real medical "limits" prove to be truly elastic around expansions and contractions of wealth and insurance status. Consequently, the meaning of futility can bend around the real variations of differently set limits.

As one example, we can consider limits and futility in the setting of antiviral therapies for AIDS

patients. There are factors other than democratic biological considerations that determine who gets treated, who faces which limit, and for whom treatment becomes defined as futile. While in theory easily separable, notions of "limits" and "futility" become linked to social and economic factors when they become the embodied notions that they must become in the reality of clinical settings. The strain of this embodiment taxes us intellectually, and it disturbs idealized notions of ourselves as a just and compassionate society.

CASE Who Decides the Futility of Medical Care?

Mr Longsley is an 80-year-old, widowed, demented nursing home resident who takes multiple medications for his chronic lung disease and congestive heart failure. He arrives in the emergency room for the fifth time in six months with acute-on-chronic respiratory failure due to yet another aspiration pneumonia. When the lone emergency room physician suggests that a repeated intubation and ICU admission would prove to be futile, Maura, the patient's daughter and only kin, disagrees. She asserts that her father enjoys his life in the nursing home, and that his life remains meaningful to her.

The physician asks Maura if she truly believes that her father would want to undergo the repeated trauma of intubation, especially when the underlying neurological problem causing his recurrent aspirations was unlikely to improve? He performed Mr Longsley's last two intubations, and he believes that they caused

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him terrible distress. There are no advance planning documents, and Mr Longsley hasn't spoken since his most recent stroke one year ago. Still, Maura contends that her father conveys his unambiguous desires to her through nonverbal cues. She insists that he wishes for aggressive treatment as needed to sustain his life, but that he does not want a permanent tracheostomy. A decision about intubation must be made within minutes of Mr Longsley's imminent death.

Should the physician honor the daughter's request?

What are the doctor's professional obligations to himself, the patient, and the daughter?

What is "futile" treatment?

Who decides?

What should the physician do in an urgent situation when he firmly believes that the treatment he is asked to authorize violates his conscience? ♦

Additional information, including complementary and/or dissenting views on this issue can be accessed on the Kaiser Permanente Intranet by visiting *The Permanente Journal* Web site (www.kp.org/permanentejournal); click on this article in the Table of Contents and then click on the link to Ethics Rounds.

Commentary

By Stephen C Henry, MD, Chair, Ethics Committee, KPMC San Jose/Santa Teresa, CA

Wouldn't it be nice if we could just have "the big one" and die quickly without having bothered much with the medical profession? Less than 10% of us will die in this fashion. It is much more likely that we will enter a situation like Mr Longsley's in which the period preceding our death is characterized by a slow decline punctuated by periodic crises, any one of which could cause death unless aggressively treated. Because our commonly held ideas suggest that death is either sudden or follows a relatively short and steady progression to a predictable death, we are not well prepared as physicians or patients to deal with recurring life-threatening episodes. We do not have a good model to help us decide which of these episodes ought to be the last, so that the unpleasantness of aggressive treatment could be avoided.

The physician in this case appears to be invoking futility as a reason not to initiate treatment. He seems to define futility as, "This stuff hurts; he's demented, and he'll just be back next month no matter." Maura disagrees, contending that, despite his disabilities, her father has a meaningful life and should continue to receive aggressive treatment.

Dictionaries define "futile" as completely ineffective, serving no useful purpose. Since people differ in their assessments of utility or purpose, claims of medical futility are, inherently, value judgments.

Several approaches have attempted to refine the definition. One approach is quantitative, posing that if an

intervention has failed more than 99% of the time, it is deemed to be futile. Other standards include strict physiologic criteria, established community standards and/or professional criteria, or institutional standards based on policy. Others define futile treatment as that which would only prolong dying. More recently, several authors suggest that futility should be decided on a case-by-case basis after engaging in appropriate discourse among the involved parties. They caution against using the term "futility" as a shortcut to avoid meaningful and sometimes difficult discussions.¹

Some institutions have developed futility or "non-beneficial treatment" policies based on various criteria. For example, in the model policy adopted by the Santa Clara (CA) County Medical Association Ethics Committee, non-beneficial treatment is defined as: "a treatment that has not or will not be reasonably expected to meet a goal wished by the patient; a treatment whose burden or harm outweighs any expected benefit; a treatment that is ineffective or harmful." In addition, non-beneficial treatment includes the following: provision of treatment when a patient or surrogate requests only comfort care; treatment to a patient in an irreversible coma or persistent vegetative state; treatment to patients permanently dependent on intensive care to sustain life; and cardiopulmonary resuscitation in patients with severe irreversible dementia.²

The Education for Physicians on End-of-Life Care



... a crisis situation in the Emergency Department is hardly the time in which to make a decision that cannot be reversed.

(EPEC) project of the American Medical Association outlines a six-step "Due Process Approach to Futility Situations." These steps are: 1) attempt to negotiate understanding among the involved parties in advance to preempt conflict; 2) negotiate solutions to disagreements; 3) if disagreement persists, suggest the participation of other consultants, colleagues, or the institutional ethics committee; 4) if the review supports the patient's position and the physician remains unpersuaded, arrange transfer of care to another physician; 5) if the review supports the physician's position and the patient/surrogate remains unpersuaded, consider transfer to another institution; 6) if it is not possible to transfer the patient to another physician or institution, the treatment need not be offered, but only after a diligent search is conducted. If institutional policy allows for this last option, there should be open disclosure of this policy to all parties involved. Great care should be taken not to join a futility policy with utilization management considerations. Nor should a futility policy be used to blatantly override patients' or surrogates' autonomy.^{3,4}

So what should our physician do? I believe that he should proceed with intubation and should initiate life-saving treatment along with measures to relieve Mr Longsley's discomfort with the procedures. Mr Longsley does not meet the criteria set out above for conditions that would suggest that treatment is futile. It does seem that the physician is using futility as a substitute for discussion, especially when there seems to be disagreement about Mr Longsley's ability to communicate and express his own wishes. Aggressive treatment is not likely to be physiologi-

cally futile: we seem to be quite good at treating aspiration pneumonia with respiratory insufficiency. The protocols and policies regarding non-beneficial care all require substantive discussion over time; a crisis situation in the Emergency Department is hardly the time in which to make a decision that cannot be reversed.

We do not have a good way of prospectively managing patients whose course is characterized by these recurring crises amidst a steady decline. Neurologically compromised patients, along with those who have exacerbations of chronic lung disease or congestive heart failure, often present challenging clinical and moral decisions about when the "last" crisis episode should occur. It is usually after a failure of intensive therapy that we make a decision to forgo further treatment. Incorporating discussions regarding these issues into long-term care as part of advance care planning could help avert potential conflict in the acute care setting. ❖

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Believe in a Child

To believe in a child is to believe in the future.
 Through their aspirations they will save the world.
 With their combined knowledge the turbulent seas of hate and injustice will be calmed.

Henry James, 1843-1916, American author



***“Zoe”
pastel
by Tina M Smith, MD***

More of Dr Smith’s artwork can be seen on the cover.

*Editor's Introduction***KP Mid-Atlantic—Lessons Learned at Ground Zero of the Anthrax Crisis**

With the opening of a letter in the office of US Senator Tom Daschle on October 15, the stage was set for one of the most alarming and potentially dangerous public health crises in the nation's Capitol—a crisis that would force Kaiser Permanente's Mid-Atlantic States (KPMA) Region onto the medical forefront of a new era of bioterrorism.

Prior to October 2001, no case of inhalational anthrax had been seen in the United States in more than 25 years, and only 18 cases had been treated in the entire 20th century.³ So when the threat of mass bioterrorism became all too real in the aftermath of the events of September 11, infec-

tious disease clinicians all over the country scrambled to review what was known about a disease that virtually no one had seen.

Fortunately, the seven infectious disease physicians and the rest of the staff of the Permanente Medical Group of KP's Mid-Atlantic Region had a head start. The region already had a detailed Bioterrorism Readiness Plan in place, thanks to the painstaking preparations for the much-feared Y2K "bug" of 18 months earlier. They also had a Disaster Planning Task Force up and ready to lead and coordinate responses and had well-tested plans for an Emergency Operations Center (EOC), should the need arise. Immediately, they set about updating the

existing bioterrorism clinical practice guidelines and researching all potential infectious agents in addition to anthrax.

The need arose suddenly and dramatically on the weekend of October 20-21. The Washington area was already in a panic due to the confirmed release of anthrax spores from the Daschle letter, an event which precipitated the closing and testing of most Congressional offices and epidemiological screening of thousands of Capitol Hill staffers. But while scores of Capitol Hill people tested positive for exposure to anthrax and were put on antibiotics, until Sunday, October 21, no one in the Washington area had actually been confirmed by blood cultures to

have inhalational anthrax infection. Now, suddenly, three cases of inhalational anthrax infection, including one fatality, were confirmed by the Centers for Disease Control and Prevention (CDC)—all KP members. All three were also employees associated with the US Postal Service's big central processing and distribution facility on the District's Brentwood Road, NE. By Monday, a fourth Brentwood worker, not a KP member, also died of inhalational anthrax.

The next 10-12 days was an extraordinary time for the physicians and staff of KPMA. The crisis tested the region's clinical expertise, its ability to coordinate, integrate, distribute, and utilize

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By Lee Jacobs, MD, Associate Editor

*Commentary***"We're Proud of You, Mid-Atlantic KP!"**

As may be apparent from our past commentaries, those of us at *The Permanente Journal* are not bashful when it comes to acknowledging the cutting-edge work of Kaiser Permanente (KP) people across the country. The response of the KP Mid-Atlantic States (KPMA) Region to the recent anthrax bioterrorist attack is no exception. You need to hear their story and share the pride we all have in their work. Although some national news media did have very favorable remarks on the quality response of KP, there is much more to their journey, and so I want to tell you the rest of the story.

After witnessing firsthand the KPMA response to the anthrax-contaminated letters

while I was in the DC area, I can reassure our readers that, in the final analysis, the standard of care for response to such disasters was established by Kaiser Foundation Health Plan administrators and Permanente physicians and associate providers. I was reminded yet again that confronting major challenges does not create high-quality leadership rather it is during such situations that the quality of leadership is revealed. Such was the case recently in the Mid-Atlantic, where Kaiser Permanente's leadership was apparent to all observers.

In the early phase of the bioterrorism attack, the region leveraged national KP resources and convened a command center modeled after an earthquake center in the Northwest Region. This center focused on the need for timely and reliable information,

not always readily available in first-time disasters. The room was replete with several computer stations providing access to pertinent Web sites. This permitted clinical anthrax guidelines to be revised and distributed to frontline clinicians rapidly as new information was received. CNN was continuously projected on one wall as the major source of information as various health and criminal agencies scrambled to understand both the extent of the problem and their role in responding. Briefings took place at the large conference table in the middle of the command center as key people received and provided updates in person or through conference calls with leaders of all the peripheral medical facilities. I found it interesting

(Continued on page 61)

Capitol Hill Hearing Testimony: Handling Casualties Caused by Weapons of Mass

*Testimony—By Susan Bersoff-Matcha, MD,
Physician with The Mid-Atlantic Permanente Medical Group*

Testimony before the House Committee on Veteran's Affairs 11/14/2001

Good morning. Mr Chairman, Members of the Subcommittee, I am grateful for the opportunity to share my experience as an infectious disease specialist in treating two of the patients who contracted inhalation anthrax. My name is Dr Susan Matcha. I am a physician with the Mid-Atlantic Permanente Medical Group and one of more than 11,000 Permanente physicians nationwide who provide care to more than eight million Kaiser Permanente members in eight states, including Maryland and Virginia, plus the District of Columbia.

In my testimony today, I would like to talk about two areas: my experience treating patients with inhalation anthrax and Kaiser Permanente's response to the anthrax crisis.

As a Permanente physician, I practice as part of a team of infectious disease specialists, alongside numerous other physicians with virtually every specialty and subspecialty represented. Our physicians are used to working together, and we know how to mobilize ourselves as different needs arise. The integrated care we provide to Kaiser Permanente members provides us with broad support and resources. In this instance, this has meant rapid consultation among specialists, the ability to develop and disseminate practice guidelines that effectively communicate our state of knowledge, and coordinated collaboration with the Centers for Disease Control and other public health authorities. Immediately after the tragedies of September 11, the threat of bioterrorism suddenly became real. The seven infectious disease physicians in my department at Kaiser Permanente began reviewing the state of our knowledge about different biological agents. We consulted textbooks, the medical literature, and the CDC Web site to increase our understanding of anthrax as well as other potential agents, including botulism, smallpox, and tularemia.

Kaiser Permanente already had developed clinical practice guidelines for bioterrorism as part of our emergency preparations for

Y2K. Our infection control committee, led by one of my infectious disease colleagues, updated them soon after September 11.

While we hope our work has contributed to the public health, my principal responsibility is caring for patients. I would like to share with you a brief chronology of the care provided to the two patients I have personally treated. To protect their privacy, I'll call them Patient #1 and Patient #2.

Patient #1 came to the Kaiser Permanente Woodbridge Medical Center on Friday, October 19. He had been ill for three days with fever, malaise, muscle aches, and sweats. At that time, the Brentwood postal facility was not known to be an exposure site. But the internist who saw the patient was concerned about the severity of the patient's symptoms. Since the patient acknowledged he had never felt that sick before and that he suspected he had been exposed to anthrax—even though a call to the public health department again confirmed that Brentwood was not a known site—he sent the patient to Fairfax Hospital.

Kaiser Permanente already had developed clinical practice guidelines for bioterrorism as part of our emergency preparations for Y2K.

The emergency room physician at Fairfax drew blood for routine tests as well as cultures and also ordered a chest x-ray, which showed some extra shadows in the middle of the chest. Because of these shadows, a CAT scan of the chest was performed. The findings were thought to be consistent with anthrax, and the patient was started on IV Cipro.

Shortly after midnight Saturday morning, I was called about the patient. When I arrived at the hospital, the CDC and health department had already been notified. Within 11 hours, the blood cultures were

growing an organism consistent with anthrax. The blood was sent to the CDC and the Virginia Department of Health for confirmatory testing. During this time,

I was in constant contact with the CDC. We discussed adding additional antibiotics to the Cipro, which at the time was the only FDA-approved antibiotic for treating anthrax. The CDC made some treatment suggestions based on theoretical evidence and what is known about the behavior of similar organisms. Although I received input from the CDC based on laboratory research, no one had experience treating human anthrax patients.

Ultimately, as the treating physician, I was responsible for writing the orders and caring for the patient. I ordered rifampin because it works well fighting many gram-positive organisms and has the ability to penetrate white blood cells to kill organisms that have already been engulfed. I also added clindamycin because it has been shown to interfere with toxin production in other bacteria.

With respect to Patient #2, he called our Kaiser Permanente medical advice line on Saturday, October 20. The advice nurse was concerned about his symptoms—headache and fever—and she referred him to a physician in our Falls Church Medical Center urgent care department that afternoon.

The physician there was concerned that Patient #2 might have meningitis and sent him to Fairfax Hospital for a spinal tap. The Fairfax Hospital emergency room physician called me with the results and mentioned in passing that the patient was a postal worker. I asked him to find out exactly where the patient worked. When I heard "Brentwood," where I knew Patient #1 worked, I remembered that anthrax could cause meningitis and



Susan Bersoff-Matcha, MD

asked him if he had ordered a chest x-ray. He had not. I advised the emergency room physician to obtain blood cultures, and then immediately give the patient a dose of IV Cipro. Once this had been done, the patient was to have a chest x-ray.

Johns Hopkins University Hospital, Inova Fairfax Hospital, and others used our protocols as their guide for patient diagnosis and treatment.

The chest x-ray was difficult to interpret, so a CAT scan was done. The results of the CAT scan were similar to the first patient's. Both showed enlarged lymph nodes in the chest as well as pleural effusions: puddles of fluid in the space around the lungs. Fifteen hours later, Patient #2's blood cultures also returned with a gram-positive bacteria consistent with anthrax. At that point, I added rifampin and clindamycin to his regimen as well.

In addition to the numerous calls I made on that weekend to the CDC and health departments that weekend, I also called the chief of our medical group's infectious disease department, Dr Miriam Cameron, to let her know about the two patients. Together with Dr Adrian Long, President of the Mid-Atlantic Permanente Medical Group, and Marilyn Kawamura, President of Kaiser Foundation Health Plan of the Mid-Atlantic States, she helped organize a conference call so our organization could respond effectively to this anthrax crisis.

The elements of our response included several key steps: establishing an emergency operations center, updating our clinical guidelines, reaching out to our patients, expanding our capabilities, and helping in the community.

Emergency Operations Center

The genesis of our emergency operations in this crisis was Y2K. Kaiser Permanente developed an emergency plan in preparation for what we thought might happen as the year 2000 began. This plan was valu-

able to us when bioterrorism hit. The manual that was created for Y2K included operating procedures for staffing (medical and administrative), equipment (including a generator with the capacity to run for two weeks), communications (internal and external), and a hotline.

Kaiser Permanente's response to bioterrorism was centralized in our Emergency Operations Center (EOC), which became fully operational on October 23. Early activation of our EOC was vital to our successful and orderly response to this crisis. The EOC provided various avenues of communication: e-mail, voicemail, and phone conferencing that connected the entire Kaiser Permanente Region. We held conference calls several times a day to discuss what we had learned since the last call, the progress of each patient, the volume of patient calls coming in to our advice nurses, and the volume of appointments at our medical centers.

As the number of designated exposure sites and possible exposure sites increased, there was great demand placed on our infectious disease team. We set up a hotline in our EOC for nonurgent questions, which was covered 9 am-5 pm by a nurse who has the latest clinical practice guidelines and access to an infectious disease physician. Emergency calls went directly to one of us for live consultations.

Clinical Practice Guidelines

Clinical practice guidelines describe and instruct the triage and treatment of patients by physicians and advice nurses. The list of designated exposure sites was updated as we received news from public health departments. Different guidelines were detailed for stable and unstable patients; symptomatic and asymptomatic patients. The guidelines listed all phone numbers for public health departments. Any and all other relevant information was included in each update. New information was clearly identifiable. For the benefit of all our physicians as well as the advice nurses, we addressed what symptoms to look for and what questions to

ask the patients, such as asking where they worked.

The process we had in place for the use of clinical protocols served us well. The information cascaded down from infectious disease specialists to everyone on the front lines: internists, family practitioners, advice nurses. Our organization's ability and dedication to update and distribute them frequently enhanced the effectiveness of clinical protocols.

Since Kaiser Permanente is used to communicating with multiple jurisdictions and dealing with different sets of rules, it was natural for us to coordinate and communicate with the CDC, the departments of public health, and different political entities. We shared information about our patients, and we shared our clinical protocols. Johns Hopkins University Hospital, Inova Fairfax Hospital, and others used our protocols as their guide for patient diagnosis and treatment.

Reaching Out to Patients

Kaiser Permanente has more than 530,000 patients in Maryland, Virginia, and DC. Each of these patients has a medical record number and an electronic medical record. Through our multiple information management systems, we can track data to help us respond to issues. For example, as soon as we understood that postal workers at Brentwood could be at risk, we identified all our members who work at the Brentwood post office by the telephone exchange they provided to us for their work number.

A cadre of nurses volunteered to contact all 237 Brentwood employees. Nurses asked our members if they had gone to DC General for testing; if they had received their medicine, were they taking it, and how did they feel. People who were not taking the medication, for a variety of reasons including suspected pregnancy, were encouraged to take the medication as appropriate or to come in and see a doctor. Some people were directed to an emergency room. Appointments were offered to anyone with any symptoms.



We can use this system to communicate with all our members or a subset of them. For example, we could call all our members to remind them about flu vaccines—which is something we are currently doing—or for mass immunizations.

We were able to instantly create a special category in the medical record for this current bioterrorism crisis to identify, collect, and sort anthrax-related information.

We were able to instantly create a special category in the medical record for this current bioterrorism crisis to identify, collect, and sort anthrax-related information. And we were able to generate hospital admissions and emergency room visit reports that were valuable to us and to the DC Department of Health staff, who said it was the best information they received from any of the area health care providers.

The importance of physicians using the electronic medical record system was reinforced. Most infectious disease physicians were spending time in the hospitals. To make it easier for us, we could dictate our notes and have them entered into the electronic medical records to keep them up to date.

Expanding our Capabilities

Because the anthrax crisis was so fluid, with different parts of the Washington area being affected at different times, we had to be fluid in our staffing at our medical centers and urgent care centers, as well as in area hospitals. Because of the integrated nature of our organization, we were flexible enough to shift people quickly throughout our region and other parts of Kaiser Permanente.

Because we are part of the larger Kaiser Permanente organization, we were able to draw on other resources. Physicians from other regions came to our assistance. We had infectious disease physicians and primary care physicians providing us support in a variety of ways. Some of them saw our HIV patients, others took routine office appointments, supported our

advice nurses, and helped in the EOC.

The out-of-state doctors had to be licensed and credentialed very quickly to work with patients. The State of Maryland was extremely cooperative. Our credentialing department processed the paperwork swiftly after the state approved the physicians.

In part because of our resources as a large organization, we were able to obtain large quantities of medication and vaccines. On Friday, October 26, a decision was made to get enough doses of Cipro in case we had to treat all our patients who are postal employees and their families. We needed 10,000 doses, and we had them by Monday, October 29. We also obtained 100,000 doses of flu vaccine. And we already have a plan in place to distribute medication to a large population and will be testing it with the flu vaccine this year.

As the anxiety increased in the general population, our medical centers organized and announced group appointments. These were helpful to our members with justifiable concerns about anthrax exposure as well as those who were concerned but had no significant risk factors.

Patients from the group meetings who wanted to be seen individually were seen individually.

We have posted our guidelines on the Kaiser Permanente Web site, where it is available to physicians across the nation and the general public.

Pitney Bowes management called us for help in the early stages of this crisis. They have many employees who are contracted to the postal service, and some work in the Brentwood facility. These individuals had concerns about anthrax exposure, but could not be seen at DC General because they were not postal employees. We agreed to test 300 workers, some of whom are members of Kaiser Permanente, some who are not. While we were doing blood testing and x-rays, we found a lung mass in one person, hypertension in another,

and other conditions of concern unrelated to anthrax. All of these patients were referred to their physicians for follow-up.

To help deal with the emotional trauma our patients were experiencing, we arranged for our mental health providers to be available at all our urgent care centers. In fact, we have had group meetings available almost every evening since the events of September 11.

Helping in the Community

Kaiser Permanente has a long history of community service. It is an integral part of our mission. Prompted by an offer made by one of our leaders, 13 of our Mid-Atlantic Permanente Medical Group physicians volunteered to help the DC Department of Health by providing weekend treatment, evaluation, and counseling at DC General, giving DC Health Department physicians a needed break.

Conclusion

The events of the weekend of October 20th were stressful and humbling. My infectious disease colleagues and I were confronted with a disease that few other clinicians in the world had seen. We felt a responsibility not only to our patients but also to the broader medical community. As a result, we have taken numerous steps to share our clinical experience. We have posted our guidelines on the Kaiser Permanente Web site, where it is available to physicians across the nation and the general public. We have responded to numerous inquiries from clinicians across the country. Finally, we have written an article for the *Journal of the American Medical Association* on what we learned about diagnosing anthrax, and we are currently working on another article to discuss what we learned about the course of hospital treatment. When and if other physicians are faced with anthrax, they will know what we did and what we learned.

Again, thank you for inviting me to speak to the Subcommittee. I would be pleased to respond to any questions you might have. ♦

In Response to a Potential Bioterrorist Threat

By Steven Black, MD

Smallpox Sense

Vaccine Has Small But Significant Risks

This commentary originally appeared on ABCNews.com on December 4, 2001.



Steven Black, MD

Immunizations are among the most widely used and effective public health measures. Many immunizations in current use, including hepatitis B, inactivated polio, and acellular pertussis have been developed to replace earlier vaccines and to provide a more acceptable safety profile. Because of the continuous safety review process and the application of new technologies in vaccine development, the vaccines we currently use routinely are more effective against more diseases yet are safer than ever. However, vaccines were not always this safe.

Smallpox vaccine or vaccinia is a vaccine that was developed initially at the end of the 18th century and was last routinely used 30 years ago. It was developed to provide protection against the dreaded risk of smallpox—a disease that killed one out of three people it infected and left most others with lifelong scars or disabilities. Because of the risks of smallpox disease and the limits of vaccine technology in the first half of the 20th century, people accepted the risks associated with routine smallpox vaccination. The risks of the vaccine were more than outweighed by the ever-present threat of smallpox. Smallpox vaccination was associated with a red, tender, crusting reaction at the vaccination site in most recipients, which lasted up to two weeks. In addition, there was a risk of more severe reactions, including overwhelming infection due

to the vaccine virus in individuals with abnormal immune systems; encephalitis or brain infection in one out of 150,000 recipients; and death in one out of 500,000 individuals. Although the risk of these severe side effects may sound relatively rare, vaccination of the entire US population would result in 600 deaths and in 2000 individuals who would develop brain infection. With smallpox not on the world scene, all of these real risks must be balanced against what is currently only a theoretical risk of smallpox being introduced by terrorists.

Apart from the risk of side effects of the current vaccine, there are other reasons not to recommend routine vaccination with the currently available vaccine. During the period when active smallpox was eradicated from the globe, the strategy used was to vaccinate individuals in a “ring” around any cases that were identified. This strategy effectively controlled and eventually eliminated infection while exposing the smallest number of people possible to the risks of vaccination. In addition, it is known that individuals exposed to smallpox can be protected against illness if they are vaccinated within a few days after exposure. Therefore, we have no need to expose the entire US population to the risks of smallpox vaccination with the current vaccine. It makes much more sense to stockpile enough vaccine to vaccinate only when and if the threat becomes real. This vaccine stockpile can serve as an effective deterrent against terrorism and buy us the time that is needed to develop a safer smallpox vaccine that could be acceptable for general use. ❖

... individuals exposed to smallpox can be protected against illness if they are vaccinated within a few days after exposure. Therefore, we have no need to expose the entire US population to the risks of smallpox vaccination ...

The Ultimate Measure

The ultimate measure of a man is not where he stands in moments of comfort and convenience, but where he stands at times of challenge and controversy.

The Reverend Dr Martin Luther King, Jr, 1929-1968

KP Mid-Atlantic—Lessons Learned at Ground Zero of the Anthrax Crisis

(Continued from page 56)

massive amounts of constantly changing information, its capacity to respond to soaring demands for access and advice, and its ability to communicate and cooperate with a patchwork of community hospitals, other health care organizations, local and state public health authorities, public safety authorities, and the CDC. Recognizing that there were limits to what the region's own physicians could handle, Regional Medical Director Adrian Long, MD, put out a call for volunteer physicians from other KP Regions. The response was immediate: two Infectious Disease docs and 12 Internal Medicine docs were on site within days to help cover routine appointments, to provide support to advice

nurses and do telephone consults from the EOC.

By the time the immediate crisis abated in early November, a total of 40 members had been admitted to hospitals to rule out anthrax. Only three of those—the original three, including the member who died—were confirmed to have inhalational anthrax infections. But the actual level of anthrax-related patient activity may be better reflected by the nearly 1000 entries made in PACE (the region's electronic medical record) under the "HAZMAT" notation that was added a few days after the crisis broke.

KPMAS's extraordinary handling of the crisis has been widely reported, and applauded, in both

professional journals (including a JAMA article, dated November 28, 2001, mostly authored by MAPMG physicians) and the mass media, including NPR, all the major national dailies, and several TV news/talk shows.

The article on page 57 provides a close-up look at the crisis from the perspective of the infectious disease physician, Dr Susan Bersoff-Matcha, who treated the two surviving members. It is based on testimony she delivered to the House Committee on Veterans Affairs on November 14, 2001.

Complementing Dr Bersoff-Matcha's testimony, a brief companion article by Steven Black, MD, Co-Director of Kaiser Permanente's Vaccine Study Cen-

ter in Oakland, California, provides an expert point of view on the question of whether Americans should be mass-immunized for smallpox in anticipation of another bioterrorist crisis.

Dr Lee Jacobs, a *Permanente Journal* editor and infectious disease physician, who did volunteer service in the Mid-Atlantic Region during the crisis, gives an additional perspective on the KPMA response to this challenge and how KP was uniquely capable of meeting this challenge. ❖

^a "Doctors Defend Anthrax Diagnosis," ABCNews.com, November 21, 2001.

"We're Proud of You Mid-Atlantic KP!"

(Continued from page 56)

how having to deal with so many unknowns in the disaster response necessitated collaboration among members of the team. Not just coordination or communication, but rather true collaboration—ie, you have some knowledge in this area, and I have some knowledge, and together, regardless of our disciplines or hierarchal job ranking, we are going to solve the problem. Dealing with the unknown—fertile ground for teamwork—is a Kaiser Permanente competency that was so well demonstrated in the anthrax attack.

Throughout the ordeal, all aspects of the care experience system in the KPMA were impacted with both the administrative and clinical people responding. While administrative people focused on the call center and appointment capacity to provide ac-

cess for worried members, the frontline clinicians appropriately adjusted their clinical approach to these patients. The infectious disease specialists dealt with the diagnostic and therapeutic aspects of this rare disease along with the stressful public relations interactions while at the same time doing their regular jobs. (Just further proof that infectious disease is the cornerstone of medicine!)

To supplement their staff during the high demand period, the MAPMG further leveraged the resources of the Permanente family and brought in several physicians from other Permanente Medical Groups. To be able to rapidly deploy these physicians out to the medical offices, they fast-tracked licensure, computer encounter training, and other necessary preparation so the physi-

cians could expeditiously be equipped to see patients. When the demands of the crisis subsided, the Medical Director, Dr Adrian Long sent personal letters of appreciation to those from other Permanente Groups who provided assistance, acknowledging in his comments that this level of support and caring is what makes a Permanente physician.

In summary, there is no doubt in my mind that, during this disaster, the members of KP could not have been in better hands. I do hope that health care organizations across the country will learn from the Mid-Atlantic's experience.

So, to the entire KP family in the Mid-Atlantic states ... from all of us across the program—Thank you! ❖



The heart of Permanente Medicine thus resides in the professional and interpersonal transactions that occur in the examination room and at the patient's bedside.

By Patricia K Fahy, MD
Ilene K Kasper, MS
Andrew M Lum, MD

The Heart of Permanente Culture

Introduction

The many interrelated forms of patient advocacy—excellent medical care, smooth transitions in an integrated health care model, responsible stewardship of patients' resources, empathetic care—define Permanente Medicine and constitute a core value, even the heart, of our organization. The heart of Permanente Medicine thus resides in the professional and interpersonal transactions that occur in the examination room and at the patient's bedside.

Emerging From a Difficult Decade

The mid-1990s was a time when growth was the supreme goal. It was a time when health care planners were concerned with network model management, consultant-assisted "redesign," and bewildering competition. It was a time of HMO-bashing among the public, dissatisfaction among our office staff, and aggressive consumerism. Navigating that difficult terrain, the KP Colorado Region became unsure of its footing. The patient advocacy road became a path of increasing resistance: patients needed tenacious assistance with navigation through unfriendly systems staffed by discouraged personnel. Often, this assistance could be provided only on the imaginary margins of a physician's chaotic workday.

The KP Colorado Region with its Colorado Permanente Medical Group (CPMG) is reconfirming

patient advocacy as a core organizational value. A crucially linked value is the importance of satisfying worklives for physicians. We are just beginning a journey to better understand, support, and enhance the careers of our physicians. This article reviews some elements of the cultural rejuvenation underway within CPMG and focuses on the Clinician-Patient Communication (CPC) training being given special attention as part of that rejuvenation.

CPMG Culture: Developing Better CPC

In 1999, Executive Medical Director-Elect Jack Cochran, MD, launched his term of office with a three-month facility tour, during which he met with all members of CPMG in small groups of two to six physicians. During this tour, Dr Cochran found morale to be "akin to the aftermath of the Yellowstone fire." As a result of the tour, Dr Cochran developed his primary areas of concern, which have subsequently been dubbed "The Three Constants" (see Sidebar, The Three Constants). These areas focus on physician career development, patient

advocacy, and improved systems and innovation in delivering care to our Health Plan members.

As one of the first initiatives dedicated to improving patient advocacy and physician careers, we developed a comprehensive approach to CPC. Acknowledging the essential roles of both the examination room interaction and the physician-patient relationship led to creation and implementation of a three-pronged CPC program.

Physician-Patient Interaction (PPI) Course

This eight-hour physician-patient interaction (PPI) course is based on the Four Habits Model¹ of patient interviewing and is offered to all new physicians joining CPMG. The course is offered as part of the initial orientation for new CPMG physicians and is also available to any other physician who might benefit. Offered in two four-hour segments, the course briefly outlines relevant literature on clinician communication, presents an in-depth review of the Four Habits Model, and spends approximately half the time conducting discussions and building skills with the participation of "typical" patients (portrayed by actors).

The Three Constants:

- Preservation and enhancement of career
- Optimizing the medical care experience for patients
- Streamlining the process of delivering care



PATRICIA K FAHY, MD, (top) is the Associate Medical Director of Human Resources in the Colorado Region and has been with the Colorado Permanente Medical Group for ten years. Prior to this role, Dr Fahy was Chief of Internal Medicine at the Westminster Medical Facility and was a member of the CPMG Board of Directors. Dr Fahy was in San Diego with SCPMG from 1988 through 1990. E-mail: patricia.k.fahy@kp.org.

ILENE K KASPER, MS, (left), is the Training and Development Specialist for CPMG. Ilene joined Kaiser Permanente in 1995 in the Prevention Department, and has been working in CPMG since October, 2000. Before joining Kaiser Permanente, Ilene was self-employed in corporate training and staff development. E-mail: ilene.k.kasper@kp.org

ANDREW M LUM, MD, (right), an Internist, was a partner physician with SCPMG and served as the PIC of the Santa Clarita Medical Offices until 1994. In 1994, Dr Lum moved his beautiful wife and four children to Colorado. He currently serves as the Associate Medical Director of Service Quality and Informatics and is on the Board of Directors for CPMG. E-mail: andrew.m.lum@kp.org.

Video Vignettes

Six brief videos starring familiar CPMG personalities are used as a basis for discussing effective and not-so-effective techniques for communication with patients in the examination room. Unlike the PPI course, which uses a classroom format, the video vignettes are designed to spark conversation among members of a department. After providing a brief introduction to the Four Habits Model, the videos serve to stimulate problem solving and unearthing “best practices” among physicians within a department. Usually three, one-and-a-half-hour sessions are conducted at departmental or noon meetings and are facilitated by an Associate Medical Director or other physician along with a training specialist.

Direct Observation Tutorial

This direct observation tutorial (DOT) format offers more focused assessment and coaching of an individual physician’s communication style and content in the examination room. A trained observer (who is a physician) monitors the physician in the examination room for a half-day session and provides structured feedback in the context of the Four Habits Model. A written report is provided to the observed physician in a follow-up meeting after the observation session has concluded.

Findings About CPC

Several findings emerged from implementation of the educational CPC programs:

- Physicians are interested in sharing approaches, tips, and techniques of examination room communication.
- More than 97% of the 64 physicians who took the PPI course in 2001 gave the course

Three Guidelines for Using Computer Information Systems (CIS) During a Patient Interview

1. Use positive or neutral words about CIS.
 - “This computer has made your complete medical history at Kaiser Permanente available at my fingertips.”
 - “I love this computer—now I can read my partner’s handwriting!”
 - “It was a leap for me to get accustomed to a computerized medical record, but now I can’t get by without it!”
2. Narrate to your patient: While entering information into the system, say it aloud so the patient can confirm or correct the information entered.
3. Invite the patient into CIS (turn the screen toward the patient or invite the patient to review laboratory test results, medications prescribed, and other information in the patient’s CIS record).

the highest or second-highest rating on a five-point scale.

- The PPI course and the DOT tutorial led to statistically significant improvement in “Art of Medicine” scores.

Broad Implications for Permanente Practice and Culture

Although efforts to enhance CPC occupy a well-circumscribed, three-pronged training niche, these efforts actually have broad implications for reinforcing five important CPMG values:

- advocacy on behalf of patients;
- integrated, collegial relationships among clinicians;
- career enhancement for physicians;
- delivery of high-quality care; and
- encouraging and preparing physicians for leadership roles in health care delivery.

Patient advocacy is the most obvious core value enhanced by CPC. We know that patients are more satisfied with their medical care

when their physicians use certain communication approaches.

A segment of the PPI course focuses on developing more integrated, collegial relationships between primary care and specialty care practitioners. In this segment of the course, facilitators lead a discussion on how to positively shape expectations held by patients who are being referred to specialty care (and back to primary care). In addition, the specialty mix of physicians within the PPI class enhances relationships among CPMG physicians.

Improving physicians’ careers is an explicit goal of all of our CPC courses. In this era of consumer-driven health care, physicians face enormous pressure to care for a full panel of patients (including an increasing population of patients served by Medicare), to integrate an overload of new products and literature, to navigate intermittent labor unrest among staff, and to accommodate many other demands. Studies² show that physicians who are able to incorporate specific

The KP Colorado Region with its Colorado Permanente Medical Group (CPMG) is reconfirming patient advocacy as a core organizational value.



Throughout the KP Regions, high value is placed on physician leadership in delivering medical care to our patients.

techniques in their patient interview are more satisfied at the end of their day (and incur fewer lawsuits brought by dissatisfied patients). Although these communication approaches do not provide a comprehensive answer to workload issues for physicians, improved CPC is one component that may help.

The Permanente emphasis on delivering a consistently high quality of care is supported by an increasing number of articles in the medical literature showing that use of “patient-centered” interview techniques in the clinical setting improves adherence to treatment

regimens and improves medical outcomes.¹ Moreover, quality of care is enhanced by use of the electronic medical record (EMR): during the PPI and video vignette sessions, specific communication strategies for using computers in the examination room are discussed (see Sidebar, Three Guidelines for Using Computer Information Systems).

Throughout the KP Regions, high value is placed on physician leadership in delivering medical care to our patients. Supporting the “In the Hands of Doctors” expectation held by our patients as well as by our organization is a

common thread of all physician training within CPMG.

...“patient-centered” interview techniques in the clinical setting improves adherence to treatment regimens and improves medical outcomes.

Conclusion

Training in effective CPC skills is one of many efforts within CPMG to transform our organizational culture to a fully engaged, well-integrated, dynamic, and stimulating environment for physicians and their staff in caring for patients. This key role of effective CPC in our culture is reinforced by the fact that two Associate Medical Directors are the primary facilitators and sponsors of the CPC programs. And because patient advocacy is the core value of Permanente Medicine, we believe that our CPC programs help support the heart of Permanente culture. ❖

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Bookmark this Kaiser Permanente Intranet site (<http://kpnet.kp.org/cpc/>) to stay updated on Clinician-Patient Communication topics.



Report of the Third Annual Permanente Rheumatology Association Meeting

The Permanente Rheumatology Association (PRA), an organization representing Permanente Rheumatologists from around the Kaiser Permanente (KP) Program, met for its third annual meeting in Half Moon Bay, California, in May 2001. The association is dedicated to providing state-of-the-art, cost-effective, personalized care for patients with rheumatic disease. The annual conference is an effective way for rheumatologists in the Permanente Medical Group (PMG) to review the world medical literature and compare best practices within the KP system nationwide. In the three years of the PRA's existence, the nature of the annual meeting has changed from a simple didactic conference to a dynamic meeting exploring many facets of rheumatology at KP. This year's meeting included several topics: updates on vasculitis, osteoporosis, and fibromyalgia; treatment strategies in rheumatoid arthritis (RA), functional assessment of patients with rheumatic disease; and controversies with antiinflammatory agents (COX 2). A brief Executive Summary, written by the Section Chair from each group, follows (See Participants, Table 1).

Rheumatoid Arthritis

Rheumatoid arthritis (RA) is a chronic, progressive inflammatory disease which is associated with clinically significant morbidity and mortality and imposes a large economic burden on both society and the Kaiser Permanente (KP) organization. In recent years, several new antirheumatic drugs have been developed which produce superior outcomes from conventional types of therapy. The high expense of these drugs and treatment regimens has prompted increased effort to identify outcome measures useful for monitoring disease progress, response to therapy, and cost-effectiveness of various treatment options.

After last year's discussion, the Rheumatoid Arthritis Study Group presented the most recent data on leflunomide, etanercept and infliximab, including postmarketing experience reported for adverse reactions. These drugs continue to show statistically significant benefit even in patients who have had poor clinical outcomes from traditional methotrexate therapy. With increased use of these new drugs, however, concern has grown regarding hepatotoxicity resulting from use of leflunomide (especially when combined with methotrexate) and infection resulting from etanercept. Use of anti-TNF (tumor necrosis

factor) therapy in treatment of juvenile rheumatoid arthritis to date has been disappointing. Initial information on two new therapeutic options—IL-1Ra plus etanercept; and CTLA4-Ig—was also presented.

The increasing use of these expensive therapeutic options was borne out by a review of the pharmacy purchase data for these three drugs from November 1998 through March 2000 and by results of the Rheumatoid Arthritis Study Group Questionnaire. In a published study in the October 2000 issue of *Arthritis and Rheumatism*,¹ cost-effectiveness of treatment options was analyzed for methotrexate-resistant RA. Therapy which combines either three drugs (methotrexate, sulfasalazine, and hydroxychloroquine) or two drugs (etanercept and methotrexate) is the most cost-effective type of therapy available today. The study had several limitations but provides an initial framework with which to analyze cost-effectiveness of various treatment options.

—Aileen Dillon, MD, Rheumatology (Chair),
San Francisco

Osteoporosis

The Osteoporosis Study Group provided an up-to-date review of key concepts of

bone mineral density (BMD) measurement and treatment options. Glucocorticoid-induced osteoporosis (GIOP), an issue of particular importance for rheumatologists, also was covered.

Dr David Zelman reviewed indications and recommendations for BMD testing. Indications for testing vary among KP Regions, and no clear consensus has been established. BMD testing is recommended both for women over age 65 years and for postmenopausal women over age 55 years who have risk factors influencing a decision on hormone replacement therapy (HRT) and who have known or suspected causes of secondary osteoporosis and radiographic abnormalities suggestive of osteoporosis. Serial testing to determine efficacy of treatment is not currently recommended in all KP Regions. Providing a definitive opinion on this subject was outside the scope of the workgroup.

Dr Chee Chow described the process of evaluating a patient for secondary causes of osteoporosis. No consensus exists for a cost-effective strategy, but a reasonable option is to test selected patients who have recently been diagnosed with osteoporosis, women for whom the Z score is < -2.0, and all men. Initial evaluation includes obtaining a comprehensive medical history, administering a complete physical examination, and laboratory evaluation of erythrocyte sedimentation rate as well as levels of calcium, phosphorus, thyroid-stimulating hormone, liver function tests, blood urea nitrogen, and creatinine.

The study group recommends that all persons who have T scores < -2.5 be treated using bisphosphonates, synthetic estrogen replacement molecules (SERMs), or calcitonin—agents with antifracture efficacy demonstrated in clinical trials. For these persons, only observational and retrospective evidence suggests that HRT is beneficial for lowering the risk of fracture. The

GERALD LEVY, MD, MBA, (left), is an SCPMG Rheumatologist practicing at the Bellflower Medical Center. He chairs the annual Rheumatology for Primary Care Providers symposium and is a member of the steering committee of the Permanente Rheumatology Association. Dr Levy is active in several areas of research involving COX 2 anti-inflammatory agents. E-mail: Gerald.D.Levy@kp.org.

STANFORD SHOOR, MD, (not pictured), is a TMPG Rheumatologist at Santa Clara. He is Chairman of the Northern California Rheumatology Group and Chairman of the Permanente Rheumatology Association. E-mail: Stanford.Shoor@kp.org.



antifracture efficacy of available agents for persons with a T score between -1.5 and -2.5 has not yet been conclusively proven. Increased bone density in these persons has been shown, but a definitive answer regarding fracture benefit will require large studies conducted over many years. At present, HRT appears to be the most cost-effective strategy for treating osteoporotic women.

Dr Anthony Tay discussed combination treatment (bisphosphonate agents plus HRT) and use of parathyroid hormone. The latter therapy represents a new and promising development in the treatment of osteoporosis. Dr Tay reported that combination therapy has been shown to improve

bone density but has not yet proved to reduce rates of osteoporotic fracture. Therefore, use of combination treatment is not routinely recommended. Recent studies of parathyroid hormone therapy showed impressive changes in BMD as well as reduced rates of fracture due to osteoporosis. The US Food and Drug Administration (FDA) is reviewing appropriate indications for using parathyroid hormone to treat osteoporosis.

Dr Stephanie Chu discussed glucocorticoid-induced osteoporosis (GIOP) with emphasis on pathophysiology and management of this condition. Glucocorticoid agents' negative effects on bone are multifactorial and include suppression of gonadal hormone

production, induction of negative calcium balance, and direct suppression of osteoblast formation. Treatment and prevention of GIOP includes calcium plus vitamin D replacement and hormone replacement in male as well as female patients as appropriate. Use of bisphosphonate agents is recommended for treatment of patients at high risk. The American College of Rheumatology (ACR) was expected to release new guidelines some time after the PRA meeting.

—David J Zelman, MD, Rheumatology (Chair), Georgia

Fibromyalgia

The Fibromyalgia Syndrome (FMS) Study Group provided both a brief update on FMS programs within KP and a brief literature update. Jennifer Smith, RNP, presented findings from questionnaires distributed to patients receiving trigger-point injections in her clinic during a three-week period in March 2001. Sixty patients completed questionnaires asking about pain relief occurring in response to injection of lidocaine plus bupivacaine. Injections were administered at intervals ranging from every six weeks to semiannually. Of the 60 participants, 40 had received injections for more than one year. All participants felt that injections were of some benefit, and about two thirds of patients reported that pain relief lasted for more than a week.

Dr George Breth discussed a telephone follow-up study of 184 patients participating in KP Colorado's multidisciplinary FMS group clinic; results of the study were originally reported in the Summer 2000 issue of *The Permanente Journal*.² These patients completed a detailed initial electronic questionnaire that contained items about mental health comorbidity as well as intrusiveness and impact of fibromyalgia. Follow-up data were available for 99 patients who agreed to participate in the telephone survey. Statistically significant improvement of symptoms was seen for patients with anxiety and depression, and scores reflecting musculoskeletal stiffness as well as job interference improved in all patients. The group was stratified into patients with bipolar versus

Table 1. Participants of Third Annual Permanente Rheumatology Association (PRA) Meeting

Rheumatoid Arthritis: Aileen Dillon, MD, Rheumatology (Chair), San Francisco; Srisook Boonsue, MD, Rheumatology, Panorama City; Lloyd Ito, MD, Rheumatology, Sacramento; Paul Lambie, MD, Rheumatology, Roseville; Hui Pan, MD, Rheumatology, Stockton; Mark Roberts, MD, Rheumatology, Vallejo; Eric Schoen, MD, Rheumatology, Washington DC; Nina Schwartz, MD, Rheumatology, South San Francisco; Dinesh Shah, MD, Rheumatology, Los Angeles; Monica Stewart, MD, Rheumatology, Washington DC; Dennis Stobie, MD, Pediatrics, Sacramento; Mark Genovese, MD, Rheumatology, Stanford University (Faculty Advisor)

Osteoporosis: David J Zelman, MD, Rheumatology (Chair), Georgia; Anthony Tay, MD, Rheumatology, Woodland Hills; Chee Chow, MD, Rheumatology, Oakland; Eduardo Baetti, MD, Rheumatology, Atlanta; Stephanie Chu, MD, Rheumatology, Hayward; Nancy Lane, MD, Medicine-Rheumatology, University of California, San Francisco (Faculty Advisor)

Fibromyalgia: George Breth, MD, Rheumatology (Chair), Colorado; Jennifer Smith, RNP, Internal Medicine, Fontana; Souheil Habbal, MD, Allergy-Rheumatology, Baldwin Park

Clinical Information Service (CIS): George Breth, MD, Rheumatology, Colorado; Carole Rauchle, RN, Internal Medicine, Colorado

Vasculitis: Joji Kappes, MD, Rheumatology (Chair), Portland; Heidi Butcher, CRNP, Rheumatology, Bellflower; Alan Cohen, MD, Rheumatology, San Diego; Brian Huh, MD, Rheumatology, Baldwin Park; Charles D Kenyon, MD, Rheumatology, Bellflower; Maurice Kinsolving, MD, Rheumatology, Petaluma; Patrice Leonard, MD, Rheumatology, Bellflower; Michael Takehara, MD, Rheumatology, Fontana; Steven Orkand, MD, Rheumatology, Sacramento; Robert Wiskocil, MD, Rheumatology, Walnut Creek

COX 2 Controversies: Stanford Shoor, MD, Professional Education & Rheumatology, Santa Clara; David Campen, MD, Drug Information/Professional Services, Santa Clara

Functional Assessment in Rheumatic Diseases: Gerald Levy, MD, Rheumatology (Chair), Bellflower; Canagasund Balakrishana, MD, Rheumatology, Fontana; Jeffrey Biro, DO, Rheumatology, Ohio; David F Casey, MD, Rheumatology, Bellflower; Craig Cheetham, PharmD, Pharmacy Warehouse and Services, Downey Regional Pharmacy, Downey; Robert Goldfien, MD, Rheumatology, Richmond; Arthur Huberman, MD, Area Medical Director, Administration, West Los Angeles; David C Hurwitz, MD, Rheumatology, Woodland Hills; Donald Pierce, MD, Rheumatology, Novato; John F Scavulli, MD, Rheumatology, San Diego; Wayne Yee, MD, Rheumatology, Fontana; James F Fries, MD, Immunology & Rheumatology, Stanford University (Faculty Advisor)

nonbipolar fibromyalgia because bipolar illness was suspected in 59.2% of the original group of patients according to symptoms self-reported at baseline evaluation. In the group with bipolar fibromyalgia, scores for anxiety, depression, and job interference were statistically significantly decreased. Scores reflecting number of pain-free days, restful nights, missed work days, and days with pain and stiffness were also significantly improved. In patients with nonbipolar fibromyalgia, only scores for job interference improved; scores for all other items were unchanged or unimproved.

Dr Souheil Habbal summarized abstracts on FMS presented at the November ACR meeting. Of particular interest were abstracts describing neurologic abnormalities in FMS patients who had been treated with 5HT₃ receptor antagonist plus a dopamine agonist and describing a controversial surgical intervention proposed for some fibromyalgia patients with spinal stenosis and Chiari malformation.

Dr George Breth reported that the rheumatology department at KP Bellflower started using electronic point-of-view questionnaires obtained from KP Colorado. KP Bellflower has established a multidisciplinary clinic under the direction of Patrice Leonard and with input from the mental health and social services departments. The KP Mid-Atlantic Region visited the KP Colorado FMS clinic and may be interested in future collaboration as well. Improvements made in the KP Colorado FMS program include an ongoing stress/psychodynamics focus group for the group session participants and prescreening for FMS (medical history and tender points) by the primary care department as a result of electronic medical record (CIS) referrals. Additionally, a pharmacist (PharmD) reviews pharmacologic pain and sleep management as well as alternative treatment and herbal medicines. Telephone follow-up of group session participants along with an opportunity for patients to return for further sessions on pain control, sleep, hygiene, and exercise review are planned.

—George Breth, MD, Rheumatology (Chair), Colorado

Clinical Information Service (CIS)

Dr Carole Rauchle discussed the KP Northern California CIS project, and Dr George Breth presented his view of the KP Colorado Region's experience with CIS system during the past two years. The vision for CIS is to facilitate immediate access to the patient's clinical record, centralized recording of orders and results, and seamless sharing of information among clinicians. The process is similar to the present flow of a patient visit except that records are not paper-based and are instead entered directly into the computer. The CIS system will include custom formularies and baselets (templates to assist in caring for patients with specific medical conditions).

The remaining discussion with the audience centered on the role of rheumatologists and development of rheumatology-specific content. The purposes of this effort are to facilitate documentation of commonly seen rheumatic syndromes and to establish baselets for care paths, both of which will lead to a more uniform and higher standard of rheumatology care. This result will have its greatest value in common diagnoses (eg, osteoarthritis) and high-cost treatments for RA (eg, biologic agents).

Consideration of an interregional approach to content development for rheumatology was tabled until implementation of the CIS becomes imminent. The audience and presenters believed that hands-on experience with CIS would be desirable for making decisions about clinical content in any medical specialty. The group agreed to revisit this topic at the next annual PRA meeting.

—George Breth, MD, Rheumatology, Colorado

Vasculitis

Vasculitis syndromes—which present diagnostic and therapeutic dilemmas—were discussed by the Vasculitis Study Group. Giant cell arteritis (temporal arteritis), Wegener's granulomatosis, and polyarteritis are classic examples of multisystem vasculitis. Hepatitis C syndromes with cryoglobulinemic vasculitis have added another dimension to an already complex and often confusing array of diseases. Evidence-based studies on both

giant cell arteritis and Wegener's granulomatosis have recently appeared and can help guide diagnosis and treatments. The new types of anticytokine therapy developed for rheumatoid arthritis, such as anti-TNF blockers, may add benefit medication regimens already established for treating these two conditions.

Diagnosis of giant cell arteritis remains predominantly clinical. Dr Steven Orkand discussed the noninvasive imaging studies that may help guide the clinician to an appropriate biopsy location or in diagnosis when biopsy is not feasible. No consensus currently exists for applying these methods. A major shortcoming of imaging studies is inability of these techniques to visualize smaller vessels, the most prominent location for ischemic events.

Dr Maurice Kinsolving discussed current glucocorticoid treatment, including some obscure and forgotten forms and promising treatments, such as dapsone therapy. Use of systemic corticosteroid drugs remains the standard of care, and undertreatment carries with it a risk of severe morbidity and mortality. Pulse steroid therapy does not appear to add any meaningful therapeutic advantage compared with standard daily oral drug administration. For patients whose condition is stable, treatment may be changed to alternate-day steroid therapy. Azathioprine therapy may be a useful adjunct. Methotrexate has a possible role for steroid-sparing immunosuppression. One recent report showed a steroid-sparing effect, whereas a second study did not.

Dr Patrice Leonard and Heidi Butcher reported that antineutrophil cytoplasmic antibodies arise not only in Wegener's granulomatosis and polyarteritis nodosa but also can be induced both by infection and by use of drugs. A secondary drug-induced vasculitis can develop. Dr Brian Huh discussed treatment for Wegener's granulomatosis: systemic corticosteroid therapy, cyclophosphamide therapy, and augmentation with cotrim. Methotrexate is an acceptable alternative to cyclophosphamide for treating non-life-threatening disease. Dr Robert Wiskocil contacted investigators who have



been using the TNF inhibitor, etanercept, and reported promising early results of Phase 2 studies. Caution is advised, however, because TNF inhibitors have not yet been rigorously tested and are not considered first-line therapy. Enrollment has been completed for a Phase 3 multicenter trial that is underway nationally.

Dr Charles Kenyon carefully reviewed the rheumatologic syndromes of hepatitis C virus biology. The broad topic of the viral role in rheumatic diseases deserves more time and attention and should be considered at future meetings of the PRA.

—*Joji Kappes, MD, Rheumatology (Chair), Portland*

COX 2 Controversies

In view of the recently released letter from the FDA Cardiovascular Safety Committee, Dr Stanford Shoor summarized the controversy surrounding use of COX 2 therapy:³

1. In randomized controlled trials, the risk of myocardial infarction with rofecoxib was shown to be three to five times that of nabumetone or naproxen.
2. The absolute risk of myocardial infarction with rofecoxib is 0.4% to 4.7%, and the number needed to treat is 200-250. Absolute risk is greatest in patients for whom aspirin is indicated.
3. Users of rofecoxib have no increased risk of stroke.
4. Adverse cardiovascular events associated with use of celecoxib and rofecoxib have not been compared.
5. Incidence of cardiovascular events among nonusers of aspirin ranges from 0.4% to 0.5% for naproxen, nabumetone, ibuprofen/diclofenac, or celecoxib; in these patients, a 0.8% incidence of cardiovascular events is associated with use of rofecoxib.
6. Whether the apparently increased risk of myocardial infarction associated with use of rofecoxib results from a prothrombotic effect of rofecoxib or from combining rofecoxib with naproxen (which may have an antithrombotic effect) is unclear. However, most secondary evidence favors the first explanation.

Key Points from the 2001 Permanente Rheumatology Association Meeting

1. The PRA is dedicated to providing state-of-the-art, cost-effective, personalized care for patients with rheumatic disease.
2. The high expense of new drugs and treatment regimens for rheumatoid arthritis has prompted increased effort to identify ways to monitor disease progress, response to therapy, and cost-effectiveness of treatment options.
3. The Osteoporosis Study Group recommends BMD testing in women over 65 and treatment in all persons with T scores < -2.5.
4. Fibromyalgia treatments are improving at KP due to ongoing research and innovative treatment models in pilot studies in a number of regions.
5. The vision for the KP CIS project is to facilitate immediate access to clinical records, centralized recording of orders and results, and seamless sharing of information among clinicians.
6. Members of the Vasculitis Study Group discussed diagnosis and treatment of vasculitis syndromes, including giant cell arteritis (temporal arteritis), Wegener's granulomatosis, polyarteritis, and hepatitis C syndromes with cryoglobulinemic vasculitis.
7. The use of COX 2 therapy remains controversial due to new information regarding possible increased risk of thrombotic events.
8. Disability associated with rheumatoid arthritis correlates better with functional assessment than with traditional clinical and laboratory measures of disease activity.

7. Until further data become available, the PRA recommends that rofecoxib be avoided when aspirin is indicated for antithrombotic prophylaxis. Moreover, the PRA recommends that potential harm should be disclosed to patients in whom aspirin therapy is not indicated.
8. The PRA recommends retrospective analysis of hospital data to verify or refute these risks.

—*Stanford Shoor, MD, Professional Education & Rheumatology, Santa Clara*

Functional Assessment in Rheumatic Diseases

Growing interest surrounds the question of whether the natural course of RA can be improved or arrested with introduction of newer, more effective antirheumatic medications. Long-term studies by Fred Wolfe^{4,6} and others have shown that RA is usually accompanied by progressive disability. Disability correlates better with functional assessment than with traditional measures of dis-

ease activity, including measurement of swollen and tender joints, radiographic studies of joint changes, and laboratory tests. Functional assessment can also be incorporated into clinical practice to monitor effectiveness of treatment. This determination of clinical effectiveness has become more relevant as introduction of biologic agents has dramatically increased the cost of medication.

The Rheumatology Practice Study Group evaluated common assessment instruments and their role in our clinical practice. To be clinically useful, the instrument must be simple to use, have only minimal impact on the physician's time, and be both validated and used outside KP. Ideally, every PMG rheumatologist would use the same instrument, thereby facilitating both sharing data and expanding research opportunities across the country. The committee examined the 20-year history of functional assessment and studied the most commonly used instruments in detail [Health Assessment Questionnaire (HAQ), Clinical-HAQ,

Modified-HAQ, SF-36, WOMAC, ALI, Paulus, FIQ, AIMS, RADAR, and RADAI].

The rheumatology community has basically accepted the HAQ for clinical studies,⁷ and the HAQ is a key component of the ACR comprehensive assessment tool, the ACR20. The MD-HAQ met the criteria established by a Rheumatology Practice Study Group subcommittee and was endorsed by the PRA as the preferred functional assessment tool. Actual implementation strategies for using the MD-HAQ will be left to the discretion of individual PMG rheumatologists. Each medical center that elects to use the HAQ should keep an accurate record of all patients completing the survey and should be prepared to share implementation experiences with the larger group. Attendees expressed the desire to be able to track patients individually, by specified physician, and by group. At the next annual PRA meeting, the Rheumatology Practice Subcommittee will present the experience

of clinicians who have used the HAQ.

—Gerald Levy, MD, Rheumatology (Chair), *Bellflower* ♦

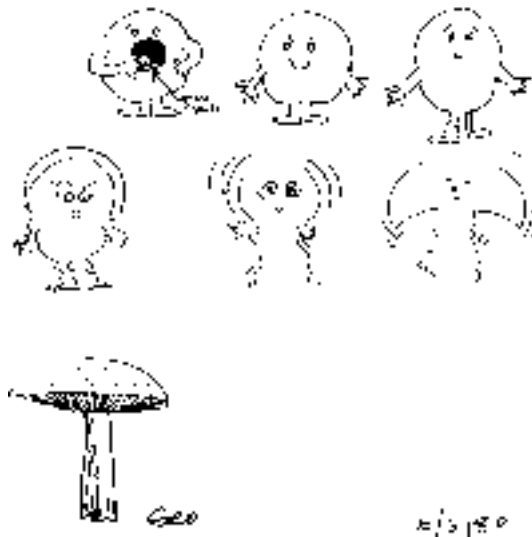
Acknowledgments

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Don't eat that green stuff!!



George T Griffing, MD, Director of General Internal Medicine, St Louis University

Discovering the Enduring Principles of Group Practice Medicine



Dr Ray Kay, 1902-1995

The following article is an edited version of a lecture delivered by Dr Ray Kay, founding Medical Director of the Southern California Permanente Medical Group, to the annual meeting of the American Group Practice Association in 1984. Dr Kay was honored on that occasion as the corecipient, with Dr Sidney Garfield, of the annual Russell V Lee Award for outstanding contributions to group practice.

In introducing Dr Kay, SCPMG physician Irving Klitsner called him one of the “pioneers, in the truest spirit, who paved the way” for prepaid group practice medicine. “Ray isn’t very tall in inches,” said Dr Klitsner, “but he’s a giant in a world that requires vision, strength, and knowledge, as well as desire and drive to accomplish difficult and worthwhile tasks. Nothing has ever been too tough for Ray Kay to tackle.”

— Jon Stewart, Associate Editor

... some of us began to visualize and remotely dream of practicing as a group of doctors where we helped each other and learned together ...

I thought it might be of value to review the development of our prepaid group practice program and reemphasize some important principles that we have come to value.

The thinking that gave rise to our medical care program began in an era very different from the present one. In the 1930s, when [Dr Garfield] and I were in training, there were no social services, no Medicare or Medicaid, no health insurance, and certainly there were no HMOs. When people became ill or needed medical care, they had two options: expensive private practice or the county hospital. It seems that we were at a point of social change, where the Great Depression and the innovative policies of the Roosevelt Administration began to emphasize the need to help those who could not help themselves. So the thinking and actions of Dr Garfield and myself were a product of the times and really represented the feelings and the desires of many young doctors of our age.

The Attractions of Group Practice

Many fundamental concepts of the Southern California Permanente Medical Group stem from the early experience and reactions some of us had while young physicians in training at the Los Angeles County General Hospital. As interns and residents, we recognized the importance of being able to provide all necessary medical studies and treatments with no economic barriers. We also appreciated the fact that we were able to develop professionally through sharing patients and learning from the other physicians with whom we worked. We really enjoyed being doctors; it was fun.

But when we went out of the practice, we discovered the full extent to which economic barriers presented obstacles to good patient care. We also realized that we no longer had the satisfaction of the

continued professional growth that resulted from the sharing of many interesting patients. It was at this time that some of us began to visualize and remotely dream of practicing as a group of doctors where we helped each other and learned together and where there were no economic blocks.

Origins of Prepayment

About 1933, Dr Garfield completed his surgical residency and set up a 12-bed hospital in the [Mojave] desert. This hospital was established for the workers on the Metropolitan Aqueduct, which was to bring water from the Colorado River to Los Angeles. However, Dr Garfield soon had financial difficulties, and for two reasons. First, the insurance companies would leave the industrial patients with him but only until they could be moved to the company's industrial surgeons in Los Angeles. To prevent this, the President of the Industrial Indemnity Exchange suggested that [Dr Garfield] offer to furnish total industrial care for a specific share of the insurance premium. When this proposal was accepted, it gave Dr Garfield a predictable and dependable income. It was now to his advantage to prevent accidents and to get the men back to work as quickly as possible. The results were very gratifying to Dr Garfield, the workers, the employer, and the insurance company.

The second problem was that the workers with nonindustrial illnesses and no money to pay for their care also came to Dr Garfield's hospital. Because the prepayment plan for industrial cases had worked so well, Dr Garfield applied the same principle to the care of the nonindustrial cases. For such nonindustrial health plan coverage, he proposed to the construction companies a charge of ten cents per



day per man. This proposal was accepted by the construction companies and the employees, and thus our prepaid Health Plan was born.

When the Aqueduct was completed, Dr Garfield planned to get additional surgical experience, but Edgar Kaiser [Henry Kaiser's son] convinced him that he should assemble a staff and set up a prepaid health plan for the workers and their families at the Grand Cooley Dam [construction site], which the Kaisers had just taken over. This was done, and when the new medical center was well established, Dr Garfield left it and returned to the LA County Hospital for a teaching residency in surgery.

Opportunity Out of Crisis

At that time, I was in private practice, but I spent most of my time at the LA County Hospital as an instructor of USC (University of Southern California) medical students. Dr Garfield and I were now again together, and we resumed our thinking and planning to utilize his industrial connections to develop a series of clinic hospital centers to make prepaid medical care available throughout California. At about this time, 1940 or '41, I was called up by the Army as a reservist, and Dr Garfield was later activated with the USC unit. However, because of Dr Garfield's experience of caring for industrial groups, Mr Kaiser asked him to establish a prepaid group practice plan for the shipyard workers of Northern California and Oregon.

The Kaiser proposal looked to us like the opportunity we'd been waiting for. After much discussion and planning, we agreed that in addition to affording good

care for the shipyard workers, the project could form the cornerstone for establishing our statewide prepaid group practice when we all returned from the Army. To accomplish this, we proposed to Mr Kaiser that with real economy of operations, money could be accumulated in a tax-exempt foundation where it would be available to start our new medical centers when the war was over. Thus, the Permanente Foundation was created with this as its main objective.

When we returned at the end of the war, the shipyards had closed, and Dr Garfield [who had obtained a service waiver through Henry Kaiser's intercession] and a small group of physicians were struggling to continue the plan in Northern California. They were trying to accomplish this in an urban area with an uncertain membership since they no longer had members from a large industry or construction job. As a result, we in Southern California were unable to depend on the financial support from the established Permanente Foundation. It paid for the facilities in Northern California, but they hadn't been able to make enough to help us get started in Southern California.

Nevertheless, Dr Garfield and I had our roots in this area, and we were determined to find ways to establish the Southern California medical care program. There was a small, prepaid group practice plan established by Dr Garfield in 1942 at Fontana for the steel mill. In February of '49, when there were problems involving the medical group and the union in Kaiser management, Dr Garfield asked me to serve as his representative and to start developing our program for Southern California. Of course, I accepted the opportunity, and gradually we supplemented the Fontana staff with well-trained physicians, built additional clinics and hospital facilities, and increased and diversified our membership.

Establishing Permanente Principles

During this period, in addition to getting our program started, we learned and established several principles.

In 1949, when I started Fontana, I was committed to the group prepaid program, but I had real concerns about the possible interference with our medical care by the unions, industry, consumers, and especially the Kaiser organization. Our first test came when the head of the steelworkers' union insisted that we retain an optometrist that our doctors felt was inadequate. When we refused, he insisted that he would win this one as he would go to Mr Kaiser.

Our first test came when the head of the steelworkers' union insisted that we retain an optometrist that our doctors felt was inadequate.



Dr Sidney Garfield and Dr Ray Kay.

We assured him that any interference from Mr Kaiser or anyone else would only result in all of the physicians leaving. So he says, "Oh, you're going to strike," and we said, "Yes, we will." Needless to say, we had no intervention, nobody bothered us, and we established the one principle in which there could be no compromise: medical care must be the responsibility of the physicians and their medical group.

Also, early at Fontana, all night duties and walk-ins

were handled by temporary physicians who were never members of our staff, and their medical care did not meet our standards. We replaced them with well-trained, full-time staff, and we altered turns during the nights and weekend duties. Thus we recognized [another principle]: that the practice of any physician in the group represented all of us and that we cannot allow physicians of questionable caliber to care for any of our patients.

By Tom Janisse, MD

This poem was inspired at the 1991 Southern California Middle Management Development Program, where the physician and manager students listened to Dr Kay recount Kaiser Permanente history as a fly buzzed about his head. He showed us then, as he had in the past, the persistence of greatness in the face of adversity—a message to help us now as health care changes. While this poem is on the lighter side, it attempts to capture, by contrast, the brilliance of Dr Kay.

I am honored that this poem was read, in 1995, at his funeral following his death at 93 years.

No Flies on Ray Kay

Ray Kay, a giant of health
fits in a small chair
sits low behind the table,
has the presence of an enormous stone
high on the rimrock.

A fly, no eagle, dives for his head
smooth for a soft landing,
as Ray explains how,
to a like group with wonder,
he started on a dream
against great resistance
but with patience and persistence.
Ray shifts mid-sentence,
the fly misses, dives again,
shift, miss.
Dive, shift, miss.
Ray, at 89, smiles softly,
he's faster than a fly.

The fly dives buzzing in his ear
nearly crashing in a tuft.
Ray swipes his hand before his face
muffling words about Sid and Irv.
Ray, so mildly annoyed
but with a large smile of new purpose says,
"I'm going to kill that damn fly!
If I can catch him."

Dive fly.
Swipe, swipe!
Ray dislodges his hearing aid,
now perched and teetering.
Disabled, he can't hear the buzz.
"Get the mic back, Irv.
I'll smack it!"

Ray readdresses the group
and chuckles undisturbed.
"Have to say I liked Henry Kaiser
though he took his shoes off."

After terrorizing the front row
of dutiful students,
the fly dives for Ray.
Ray shifts and smiles, says,
"He sure loves me
doesn't he.
That fly's going to feel bad
when we finish here."

Ray ends,
the crowd roars!
Ray Kay smiles triumphantly.

No fly
ever landed
on our Ray Kay.



The first expansion outside of Fontana was at Harbor City to care for the Longshoremen's Union members as part of the Coast-wide plan [a deal struck with the Longshoremen's Union]. With the hope that we could give our members good care without upsetting the medical community, we tried using physicians in private practice on a part-time basis. It didn't work. The association and care was good, but the other physicians in the community put so much pressure on the doctors working for us that they finally had to terminate their association. As a result, we had to develop our own full-time staff and eventually build our own hospital. We thus came to realize that we must build a medical staff whose sole interest was our medical group and our type of medicine. Our experience forming the group also convinced us that the most important element in forming a group of physicians is a stable core of dedicated doctors.

Joint Decision Making

In early 1951, the large retail clerks' union asked us to expand our program to the Los Angeles area to care for its 25,000 members. With this membership we were able to borrow sufficient money to plan and build clinic and hospital facilities. We leased hospital beds all over town until we completed our own 200-bed hospital. We assembled an excellent staff consisting of key members of our Fontana and Oakland groups and a number of physicians who were well established in the Los Angeles community. But with the establishment of our Los Angeles center, there was a rapid growth of the Health Plan membership, and the efforts to support this growth with adequate staff and facilities has been the story of our organization ever since.

During this early period of rapid growth, it became evident that if physicians and facilities could not keep pace with membership, we could not maintain our desired quality of medical care. Thus, the principle was established that the extent of Health Plan growth, though a Health Plan responsibility, must be subject to medical group approval. Hence, it really became a joint decision.

Preserving Physician Management of Medical Care

The final subject I wish to discuss is the relationship between the Permanente Medical Group and the Kaiser entities. As I listen and hear what's happening throughout the country, I feel this is particularly important. As medical care has become a major

industry, increasing numbers of corporate organizations have become involved in selling medical care. Relationships between such corporations and groups of physicians are of paramount importance.

We started as a physician organization, and, throughout our existence, we have continued to believe that the physician group must control and be responsible for the medical care, and to do this they must maintain the administrative responsibility necessary to ensure this control.

By 1948, the health plan had grown financially secure and was established as a separate organization—the Permanente Health Plan. Also in 1948, the doctors in Northern California formed the first partnership, The Permanente Medical Group, which had always been [Dr Garfield's] and my dream. By 1952, the [old organizational form] was replaced by the present structure, with the hospital corporation, the Health Plan corporation, and the partnerships of doctors in each area.

With these changes, there was deep concern [about preserving] our basic concept of locally integrated operations of clinics, hospitals, and health plan under physician management. In fact, [with the rapid growth of the program in the early 1950s], Henry Kaiser became increasingly interested and involved in the medical care program. Some of his actions and his repeated statement that the doctors should take care of the patients and leave the business management to knowledgeable business men of industry caused grave concern and a great deal of unrest in all the medical groups. Thus, early in 1955, a very critical and traumatic period, disagreement and struggle broke out between the Permanente Medical Groups and the Kaiser management as to who was to control the program.

Basics of the Tahoe Agreement

As none of the problems were being resolved, a summit-type conference was held in mid-1955 at the Kaisers' estate at Lake Tahoe to decide whether it was possible or even desirable for the entities to continue working together. After three days of continuing exploration by key representatives of all the medical groups, Henry and Edgar Kaiser and key men of the Kaiser staff, several fundamental decisions were made.

The main and basic decision was that the medical care program was of such value that it must be preserved. It was also recognized that all the entities and their expertise were essential, and that a work-

... we recognized that responsibility and control would have to be shared, and that no entity should make unilateral decisions ...

ing relationship based on partnership rather than control or domination must be developed.

An advisory council made up of key members of the Health Plan, the hospitals and the medical groups was formed to develop an organization plan that would retain the medical group's responsibility for the medical care, delegate the roles and responsibilities of each entity, and cover major problems by contract. In seven months of formal and informal discussions, we tried to explain to each other the essential elements of our respective concerns. With the understanding resulting from these advisory board discussions, Kaiser staff presented a reorganization plan that the medical group in Southern California felt could serve as a basis of a contract to be known as the medical service agreement. Thus, the medical service agreement identified those areas in which the authority and responsibility of the medical group would be primary and others in which the authority and responsibility of the hospitals and Health Plan would be primary. In addition, we recognized that responsibility and control would have to be shared and that no entity should make unilateral decisions on matters of importance to the whole program. Health Plan membership growth, Health Plan dues, Health Plan coverage, and needed facili-

ties were all to be joint decisions. In other words, we all had to agree on those parts.

Kaiser As Boss

I want to set the record straight as to our feelings about Mr Kaiser. It's true that, at times, we were concerned about his speaking on behalf of doctors. However, he believed in what we were doing, and whenever we were threatened, he would send in the "first team." But to him, the "first team" was Mr Kaiser. We didn't want that, and we gradually got him to realize it; and every once in awhile, he'd say to me, "Ray Kay, you think I want to boss the doctors and that I want to run the doctors." And I would say, "No I don't, but I've got to let you know when you do things that make us think you're trying to [run the doctors]."

[Henry Kaiser] felt strongly and he fought hard, but he and his people also listened. As a result, we developed a healthy working relationship. I'm sure he felt that the part he played in establishing the Kaiser Permanente program was his greatest contribution to society. And I think it has become his monument. We all respected and appreciated his imagination and vision, and we learned that if your objective is right, nothing can stop you. ❖

Teach Them

If you want to build a ship,
don't drum up the men to gather wood,
divide the work and give orders.
Instead, teach them to yearn for
the vast and endless sea.

*The Wisdom of the Sands, Antoine de Saint-Exupery, 1900-1944,
pioneer aviator, poet and novelist.*



***“Canyon Vistas”
watercolor and pastels
by Lis MacDonald, NP***

Lis MacDonald is a nurse practitioner in Primary Care at the Point Loma Clinic in San Diego, CA. She began painting watercolors about six years ago and enjoys painting landscapes and portraits. This piece blends watercolor and pastels in a landscape overlooking the Mission Valley of San Diego.



Results of the First National Kaiser Permanente Continuing Medical Education Needs Assessment Survey

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Abstract

Context: Needs assessment is an important part of planning effective continuing medical education (CME) programs. The Kaiser Permanente National CME Committee (KPNCCME) was formed in 1998 to accredit and provide oversight and assistance to Kaiser Permanente (KP) national CME programs and to provide expertise on an as-needed basis to regional and local KP CME efforts.

Objective: To develop, distribute, and analyze a CME needs assessment survey of Permanente physicians.

Design: Cross-sectional survey completed by Permanente physicians on paper or online during September 2000 through December 2000.

Main Outcome Measures: Physician motivations for, preferences about, and perceived barriers to participating in CME programs.

Results: Of 10,959 surveys distributed to KP physicians, 1976 (19.1%) were completed. Survey responses showed that Permanente physicians choose topics on the basis of self-perceived need and tend not to be influenced by objective performance data. Survey respondents preferred evidence-based, clinical CME topics that address a major aspect of their practice and that potentially provide an opportunity to learn new skills. Respondents preferred CME programs delivered in group format, although a subset of respondents found the computerized format valuable. In choosing a CME program, respondents were influenced more by program location than by time of day at which programs were scheduled.

Conclusions: At all levels—from individual to national—CME planning should incorporate objectively determined quality, program utilization, and other objective data as well as more subjectively determined need as perceived by individual physicians and CME experts. Live programs delivered onsite should use interactive format. The need for clinicians to develop cultural competence and effective communication skills should be framed in clinical context. Locations of KP national CME programs should periodically be rotated to make these programs more accessible to prospective attendees from all KP Regions.

Introduction

The Kaiser Permanente National Continuing Medical Education Committee (KPNCCME) was formed in 1998 to help provide continuing medical education (CME) opportunities and CME credit for Kaiser Permanente (KP) physicians through a variety of methods, including national conferences and enduring materials (eg, journals, Internet modules, CD-ROM). The KPNCCME protects the “brand image” of the KP name by accrediting national KP conferences and by assuring that they adhere both to internal standards and

to standards set by the Accreditation Council for Continuing Medical Education (ACCME). KPNCCME members serve as liaisons to national CME conferences, seek to improve quality of program development, and serve as resources for design and delivery of CME programs. The KPNCCME also provides a venue for members of the Permanente Medical Groups nationwide to share innovative CME ideas and programs. The KPNCCME mission statement is included in Appendix A.

Needs assessment is an important part of planning CME programs. This assessment is used to develop objec-

tives for educational programs by linking learners’ goals with quality, utilization, or other performance data; with local and regional initiatives; and with emerging medical information. Needs assessment can also be conducted to evaluate general preference for future topics of meetings; for preferred schedule and location of programs; and for preferred educational format. To leverage resources, the KPNCCME developed a programwide, general needs assessment designed to provide information to regional and national CME planners. We present national aggregate data collected from the first KP national CME needs assessment (Regional Directors of CME have received data on their respective medical groups). These national results generally reflect regional results.

Methods

Survey Tool for Assessing KP Clinicians’ CME-Related Needs

For a subset of physicians of known length of experience and medical specialty, a survey was designed to assess motivation for attending CME programs; barriers to CME program participation; preferred format for CME; preferred schedule and location of national CME programs; and preferred future topics of CME programs.

Survey Development and Distribution

The initial hard-copy survey was developed in 1998 and was pilot-tested among Permanente physicians in the KP Colorado and Northwest Regions. Internal correlations were made to reduce redundancy

and shorten the questionnaire. A pilot version of the revised survey was also posted on the KP Northwest Region's Physicians and Surgeons Web site from July through September 2000. After Web masters, Web site coordinators, and education staff refined their interoffice workflow, the survey was made

available online to PMG physicians nationwide from November through December 2000. In addition, paper copies of the survey were mailed to PMG physicians nationwide in November 2000. Physicians were given the option of responding to the paper version of the survey or to the survey on the Internet. As incentive

to complete and return the survey, a drawing for a \$25 gift certificate was held in each medical group for physicians returning a completed paper survey; for physicians who completed the online survey, a drawing for a \$100 gift certificate was held in each medical group.

Responses to the online survey

Table 1. Location of Permanent Medical Group physicians returning survey

KP Region	No. of surveys		Return rate (%) for Medical Group	Percentage of all surveys returned
	Sent	Returned		
Northern California	4900	776	15.84	39.27
Southern California	3500	722	20.63	36.54
Colorado	535	127	23.74	6.43
Northwest	600	118	19.67	5.97
Mid-Atlantic	614	88	14.33	4.45
Hawaii	350	75	21.43	3.80
Ohio	240	41	17.08	2.07
Georgia	180	25	13.89	1.27
Kansas City	40	4	10.00	0.20

Table 2. Department or medical specialty of survey respondents^a

Department or specialty	No. (%)	Department or specialty	No. (%)
Internal medicine	338 (17.11)	Allergy	21 (1.06)
Pediatrics	274 (13.87)	Pulmonology	21 (1.06)
Family practice	216 (10.93)	Hematology/oncology	18 (0.91)
Other	168 (8.50)	Endocrinology	16 (0.81)
Obstetrics/gynecology/pelvic surgery	134 (6.78)	Nephrology	16 (0.81)
Mental health/chemical dependency	80 (4.05)	Trauma/urgent care	16 (0.81)
Eye care/retinal surgery	71 (3.59)	Administration (medical group)	15 (0.76)
Surgery (general)	63 (3.19)	Perinatology/neonatology	12 (0.61)
Emergency medicine	59 (2.99)	Physical/occupational therapy	10 (0.51)
Radiology/nuclear medicine	46 (2.33)	Plastic surgery	10 (0.51)
Pathology/clinical laboratory	45 (2.28)	Preventive medicine	8 (0.40)
Cardiology	37 (1.87)	Rheumatology	8 (0.40)
Head & neck surgery/audiology	37 (1.87)	Neurosurgery	6 (0.30)
Dermatology	35 (1.77)	Surgery (vascular)	6 (0.30)
Urology	34 (1.72)	Surgery (cardiothoracic)	5 (0.25)
Infectious disease	31 (1.57)	Reproductive endocrinology	2 (0.10)
Orthopedic surgery	30 (1.52)	Research & development	2 (0.10)
Neurology	29 (1.47)	Call center/clinic phone advice	1 (0.05)
Physiatry	29 (1.47)	Health Plan administration	0 (0.00)
Gastroenterology	27 (1.37)	Pharmacy (clinical)	0 (0.00)

^aOf 1976 respondents, 505 (25.62) had 0-5 years of experience practicing their current medical specialty; 382 (19.38) had 5-10 years of experience; 372 (18.87) had 10-20 years of experience; 483 (24.51) had ≥20 years of experience; and 234 (11.62) did not provide this information.



... results shown in Table 3 suggest that we are missing the opportunity to use our readily available physician performance data to design CME programs and to help our physicians select CME programs.

were automatically captured in a Microsoft Access database before conversion to a Microsoft Excel file. Results of the paper survey were manually entered directly into the Microsoft Excel database. National and regional data were then analyzed and reported.

Statistical Analysis

The Statchek Statistical Analysis Program, version 1986 (Detail Technologies, Inc, Princeton, NJ) was used to determine the accuracy of the survey results.

Results

Survey Return Rates and Demographics of Respondents

Of 10,959 surveys distributed to PMG physicians, 1976 surveys (1351 paper, 625 online) were returned for an overall return rate of 19.1% (Table 1). On the basis of sample size and return rate, preference of Permanente physicians was determined to within $\pm 2\%$ (95% confidence level).

Table 2 depicts medical specialty and years in practice for survey respondents. No national

database of KP physicians exists for comparison, but distribution of specialty is considered generally representative of KP physicians nationwide. The category for anesthesiology was inadvertently omitted from the survey instrument; as a result, many respondents who described their medical specialty as "other" are anesthesiologists. The next national needs assessment will correct this oversight.

Table 3 summarizes responses of physicians when asked to rate influence of several factors on their

Table 3. Factors influencing respondents' choice of CME programs

Topic	Percentage of respondents rating influence of factor		
	Strong influence ^a	No influence ^b	Mean of scale
Topic	94.84	0.25	5.65
The topic area is a significant part of my practice	83.06	1.82	5.22
Desire to learn a best practice/new information/new technology in the topic area	78.20	2.38	5.10
Location of the program	73.09	3.29	4.99
Potential for implementing new skills I might learn in the program	68.13	3.09	4.85
Desire to improve patient outcomes in topic area	67.27	4.25	4.82
Time of day program is offered	54.78	11.23	4.45
Day of week program is offered	52.50	9.36	4.44
Material presented at the educational activity is evidence-based	52.20	7.38	4.44
Reputation of faculty	46.33	7.13	4.33
Need to verify that my practice in the topic area is up-to-date	49.77	11.63	4.30
Coverage in my department	46.13	13.56	4.23
Program format (workshop, lecture, etc)	37.58	9.36	4.13
Need to function as health care team member in providing care in topic area	40.11	15.68	4.01
I have already changed my practice in topic area and need additional information	24.23	24.18	3.47
Patients are demanding more of me related to care in the topic area	23.22	30.70	3.35
Dissatisfaction with my practice in the topic area	23.72	34.04	3.27
Recent regulations, policies, or guidelines require that I do things differently in the topic area	20.84	34.90	3.21
My performance in topic area is an important part of my performance evaluation	17.25	44.87	2.90
Data on my performance in the topic area suggest I need improvement	17.20	56.40	2.62
Pressure from a colleague or supervisor to improve my performance in the topic area	7.23	67.27	2.18

^aCorresponds to response score of 5 or 6 on a 6-point scale.

^bCorresponds to response score of 1 or 2 on a 6-point scale.

**Table 4. Most frequent areas of interest listed by survey respondents**

Adult primary care	Alternative medicine	Dermatology	Neurology	Miscellaneous	Pediatric topics
Asthma Chronic obstructive pulmonary disease Congestive heart failure Diabetes Gastroenterology Hypertension Pharmacotherapy update	Acupuncture Herbal medicine	Alopecia Atopic dermatitis Minor surgery techniques Psoriasis	Headache Multiple sclerosis Parkinson's disease Syncope	Fibromyalgia Myofascial pain syndrome	Antibiotics Asthma Attention deficit hyperactivity disorder Cardiology Dermatology Learning disabilities Otitis media Urgent care

choice of CME programs according to a six-point scale ranging from least influential (score of one) to most influential (score of six). Responses showed that Permanente physicians choose CME on the basis of self-perceived need and tend not to be influenced either by perspectives held by peers or by performance feedback. Permanente physicians also select topics related to attaining new skills that represent a major part of their practice or that provide an opportunity to improve clinical outcome. Choice of CME program is influenced more by location of program than by time of day at which the program is offered.

Topics of greatest interest to respondents are listed in Table 4. Because more than 40% of responses received were submitted by internists, pediatricians, and family physicians, preference reflected in these responses indicates the broad nature of primary care practice.

When asked to rate, using a five-point scale, their preference for CME format on the basis of format utility and effectiveness, KP physicians expressed strong preference for group learning activities (Table 5). Most respondents indicated that they do not yet view newer, computer-based CME format (eg, CD-

ROM, Internet) as useful. However, 29% of all respondents and 40% of the 625 online respondents (data not shown) indicated that online format was "most useful." One in five respondents overall and 27% of online respondents (data not shown) rated floppy disk- or CD-ROM-based format as "most useful." We will be interested to reassess the usefulness of the computer-based CME format over time as our physicians increasingly use computers (eg, for access to the KP National Computerized Information System and the Permanente Knowledge Connection) in the workplace.

Asked to assess, using a four-point scale, effectiveness of various types of CME format in helping change or improve their practice, physicians stated that they preferred interactive sessions and perceived these sessions as the best way to gain knowledge and improve practice (Table 5). Compared with physicians responding to the paper version of the survey, physicians responding online were more likely to rate the online format (59% of respondents) or the floppy disk or CD-ROM format (44% of respondents) as "almost always" helpful for changing their practice (data not shown). These results were consistent with respondents' stated preference rated on the

basis of format utility (Table 5).

Asked to identify, using an eight-point scale, barriers to their participation in CME programs, most respondents indicated that program location, schedule, and cost are the greatest barriers to participation (Table 6). Responses seemed to show positive experience with CME as well as belief that CME is valuable, important, and helpful for career advancement.

Asked to rate, using a three-point scale, broad categories of CME as they relate to helping clinicians provide patient care, respondents indicated that they valued topics relating to evidence-based medicine and clinical guidelines and did not assign high priority to CME programs designed to enhance presentation skills, office-based teaching of students and residents, or cultural competence (Table 7).

Asked their preference for schedule and location of KP national CME programs, nearly 60% of respondents stated that they had not attended any of these programs and favored rotating the time of year and location of KP National CME programs to facilitate attendance by the largest number of clinicians (Table 8). Respondents stated that they were willing to travel to attend national CME programs and



Lectures ... must be combined with more interactive learning format to allow participants to practice new skills and discuss how to implement new practices and behavior.

agreed that these programs should be designed to accommodate family and relaxation time.

Discussion

Results of this survey offer valuable information for planning future CME programs. Specifically, although consistent with the published findings that self-perceived need is a powerful motivator for physicians to attend CME,^{1,2} results shown in Table 3 suggest that we are missing the opportunity to use our readily available physician performance data to design CME programs and to help our physicians select CME programs. Individual physicians and their supervisors may not perceive that data regarding quality of care, medical utilization, and feedback from peers or patients are connected to CME. Partly for this reason, CME might

not be included in routine evaluation of physician job performance. Providing "hard data" can complement self-perception in helping clinicians develop individual CME programs designed to improve practice outcomes, clinical knowledge, and physician comfort.

Table 5 shows that KP physicians strongly prefer lecture and other group activities and that physicians feel the lecture format can help change medical practice. This preference for the lecture format might be a consequence of physicians' long familiarity with the format (dating back to college and medical school) and the opportunity the format provides them to interact with colleagues. However, by themselves, CME lectures rarely lead clinicians to change their behavior or lead to improved patient outcomes.³⁻⁷ Nonetheless, the lec-

ture format has been suggested as valuable for raising awareness—in particular, awareness of new information—and for helping clinicians to decide on practice changes.⁷⁻⁹ Lectures can continue to be used selectively—especially in these ways—but must be combined with more interactive learning format to allow participants to practice new skills and discuss how to implement new practices and behavior. Tools for facilitating and reinforcing behavioral change should therefore be designed for use before and after completion of CME programs so that clinicians may improve their chances of achieving desired practice outcomes.^{3,4,6,7,10,11}

We were not surprised to find that physicians perceive evidence-based medicine and clinical guidelines as most valuable for providing clinical care (Table 7). Presentation skills and office-based teaching and precepting are more likely to be important to the minority of respondents who are organizational leaders, CME faculty, or regular teachers of medical students and residents. That customer service, communication, and cultural competence were the CME topics considered least valuable highlights the gap between the importance of these topics as perceived by clinicians and the importance of the topics as perceived by administrators who select organizational initiatives. To help close this gap, we suggest that these topics be incorporated into clinical curricula at the "examination room" level. For example, instead of teaching physicians how to be "culturally competent," a more appropriate strategy might be to incorporate into a clinical context use of skills specifically related to diverse populations. By relating

Table 5. Respondents' preference for CME format

	Percentage of respondents with preference based on format utility		
	Strong influence ^a	No influence ^b	Mean of scale
Format preferred on basis of utility:			
Lecture	88.47	1.32	4.31
Workshop	78.60	5.56	4.11
Journals, monographs	55.08	11.08	3.62
Audio/videotapes	31.82	32.78	2.96
Intranet/Internet	29.34	34.24	2.89
Floppy disk/CD-ROM	21.50	43.85	2.62
Format preferred on basis of effectiveness:			
Lecture	88.87	0.30	3.38
Real-time interaction with colleagues	85.53	1.42	3.34
Hands-on demonstration/workshop	82.85	1.37	3.31
Small-group presentation/case discussion	80.53	1.21	3.16
Panel discussions	75.77	2.38	3.02
Individual training with preceptor	75.72	5.51	3.19
Written material (journal, monograph, etc)	65.40	2.68	2.82
Videotape/audiotape	50.53	10.37	2.51
Online (Intranet, Internet)	41.02	17.60	2.32
CD-ROM/floppy disk-based	35.00	20.18	2.21

^aCorresponds to response score of 4 or 5 on 5-point scale

^bCorresponds to response score of 1 or 2 on 5-point scale

**Table 6. Barriers to respondents' participation in CME programs**

	Percentage of respondents		
	Strongly agree ^a	Strongly disagree ^b	Mean of scale
The dates of the program are not convenient	62.87	2.43	6.68
The location takes too much time to reach	52.25	5.56	6.21
The location is too costly	50.63	6.78	6.09
CME scheduling interferes with my personal or family responsibilities	18.11	17.35	4.67
CME scheduling interferes with my patient care responsibilities	17.70	17.55	4.61
I don't receive enough information about CME opportunities	11.79	23.52	4.07
I don't have the energy for more professional activities outside of work	9.36	29.44	3.82
CME topics are not relevant to my practice	12.09	33.59	3.69
A majority of my learning needs are satisfied through my practice	2.48	26.25	3.53
Catching up on my clinical responsibilities is too hard after attending CME programs	4.96	40.36	3.22
CME programs don't match my personal style of learning	3.14	38.59	3.15
CME does not help advance my career	2.63	49.67	2.79
CME does not help me improve care of my patients	2.23	57.97	2.52
Many of my past experiences with CME have been negative	1.11	57.06	2.47
Sometimes I lack confidence in my ability to learn new skills or techniques	0.46	71.22	2.04
CME is not a requirement for my job	1.32	71.32	2.02

^aCorresponds to response score of 7 or 8 on 8-point Likert scale.

^bCorresponds to response score of 1 or 2 on 5-point Likert scale.

That customer service, communication, and cultural competence were the CME topics considered least valuable highlights the gap between the importance of these topics as perceived by clinicians and the importance of the topics as perceived by administrators who select organizational initiatives.

Table 7. Importance of CME topics for helping respondents to provide patient care

Topic	Percentage of respondents rating importance of topic		
	Topic very important ^a	Not important ^b	Mean of scale
Evidence-based medicine	62.77	3.19	2.64
Clinical guidelines	61.70	3.82	2.58
Quality improvement	40.92	9.31	2.32
Medical-legal/regulatory issues	35.66	9.71	2.26
Computer skills	37.68	14.01	2.24
Time management	37.68	16.24	2.22
Data interpretation	34.40	14.72	2.20
Communication/conflict resolution/behavior change skills	33.84	16.84	2.17
Utilization management (eg, laboratory, imaging, pharmacy, hospital, referrals)	29.44	14.11	2.17
Customer service	28.28	21.80	2.07
Negotiation skills	24.08	23.01	2.01
Presentation skills	22.96	24.89	1.98
Cultural competence	19.22	21.24	1.98
Office-based teaching/precepting (students, residents)	20.08	27.52	1.92

^aCorresponds to response score of 3 on 3-point scale.

^bCorresponds to response score of 1 on 3-point scale.



skills directly to patient care, physicians will increasingly find relevance in topics such as customer service and cultural competence.

Next Steps for the KPNCME Committee

As a result of this needs assessment, the KPNCME Committee has developed several follow-up steps for enhancing CME programs:

1. A subcommittee of the KPNCME Committee has been working with the Care Management Institute and staff of the Permanente Knowledge Connection to develop and refine online CME modules. The subcommittee will require continual input on how to make these programs more accessible and user-friendly. As more of our clinicians use computers in the workplace, the subcommittee will monitor usefulness of computerized CME format over time.
2. Acknowledging that gender may be an important determinant of preference for CME format and content¹²⁻¹⁴—and that we did not analyze re-

sponses by gender—the next version of the national KP CME needs assessment will assess effect of gender on preference for schedule and location of national conferences as well as other potential gender differences in learning preference among our physicians.

3. Table 5 shows that many of our physicians continue to value written CME materials. The KPNCME Committee will work to strengthen our existing relationship with *The Permanente Journal* and will cultivate new relationships with the Care Management Institute to develop case-based, written educational materials on topics of programwide importance to KP.
4. Results of the needs assessment are consistent with findings published in the CME literature and underscore the importance of using multiple different educational formats to meet the needs of a wide range of learners. The KPNCME Committee will continue working with conference

planners and other key KP stakeholders to develop and provide educational opportunities that meet KP organizational goals as well as the needs of individual learners.

Recommendations

On the basis of these results, the KPNCME Committee has developed the following recommendations:

Recommendations for CME Planners and Organizational Leaders

Explicit, strong links should be created between CME planning (individually, locally, and nationally) and measures of quality and utilization as well as other objectively measured data.

At all levels—from local department chiefs to Regional Medical Directors—Permanente leaders should encourage physicians to select CME programs on the basis of individual performance data and subjectively perceived need. One strategy for accomplishing this goal would be for each physician's regular performance evaluation to incorporate discussion of com-

Table 8. Respondents' opinions on dates and locations of Kaiser Permanente National CME programs

	Percentage of respondents giving opinion		
	Strongly agree ^a	Strongly disagree ^b	Mean of scale
Vary geographic location from year to year to facilitate attendance by different clinicians	65.60	3.29	4.91
Allow time for relaxation and family time as well as CME time	64.19	5.87	4.86
Vary program dates from year to year to facilitate attendance by different clinicians	62.32	4.70	4.81
Hold at resorts or other locations conducive to relaxation and wellness	63.43	5.77	4.80
For convenience, hold at locations near my medical office	36.42	16.79	4.03

^aCorresponds to response score of 5 or 6 on 5-point Likert scale.

^bCorresponds to response score of 1 or 2 on 5-point Likert scale.

pleted and planned CME activities.

Local, regional, and national CME program planners should incorporate high-level quality and utilization data into selection of topics for CME programs.

When designing group educational events or interventions, CME planners should, whenever possible, provide opportunities for interaction among learners and between CME faculty and learners. Conferences should incorporate multiple teaching formats, including lectures (to introduce new information) and small, skill-based, interactive groups (to provide structured opportunity for practicing skills, networking, and sharing ideas).

Skills such as cultural competence, customer service, and patient-physician communication should be taught in the context of "clinical curriculum" by teaching how these specific skills relate to care of patients with specific problems. This approach will show the practicality and utility of these skills for physicians and will increase the likelihood of implementing new skills in medical practice. CME planners should consider formally evaluating how practice and patient outcomes are affected by this method of teaching these skills.

To reach a broader potential audience, KP national CME programs should be given at rotating locations and on various dates.

Recommendations for Physicians as Learners

To enhance their learning experience, physicians can:

- Use feedback they receive about individual quality, utilization, patient satisfaction, and other elements of health care practice to help select educational opportunities and

other opportunities for professional development;

- Select interactive educational formats (eg, workshops, demonstrations, case-based programs) for most CME in order to increase the likelihood of improving or changing practice;
- Select lecture only to verify alignment with current practice, to learn about new material, or to help decide whether to implement a practice change. ❖

Acknowledgments:

We would like to thank Wendy Ray for her help in using the Statchek® program; and Michelle Bolke, who helped put the needs assessment into online format.

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APPENDIX A Kaiser Permanente National CME Program Mission Statement

Purpose

The Kaiser Permanente National CME Program seeks to improve the skills and effectiveness of individual clinicians in the clinical encounter and physician leaders in the development and management of the care delivery system so that patients receive high quality, caring, affordable health care. By providing learning opportunities designed to improve the clinical, behavioral, and leadership skills and knowledge of physicians and physician leaders, the National CME Program supports the organization's national strategy to improve the health of Kaiser Permanente members and the health of the communities which are served by Kaiser Permanente.

With a National CME Program in place, Kaiser Permanente will be well positioned to realize the organizational vision of becoming the world's leader in improving health through high quality, caring, affordable, integrated health care.

Content Areas

In addition to focusing on clinical and behavioral competencies in the provision of care to patients, we believe it is critical for physicians to receive relevant training in leadership and management tools and strategies. Therefore, the scope of the National Permanente CME program will focus on three areas: Clinical skills (cognitive and technical); service behavior skills (both clinician-patient communication as well as interpersonal relationship skills); and leadership and management skills (business knowledge and skills, systems thinking, problem-solving, etc).

Target Audience

Permanente physicians practice in many states. Our program is designed to offer CME activities to all Permanente physicians in the United States as well as to affiliate medical group physicians and to individual practitioners with whom we contract to provide care to Kaiser Permanente members. The educational activities are suitable for including other members of the health care team as appropriate.

Types of Activities Provided

We will provide educational activities to improve the clinical, technical, behavioral, and leadership skills

of Kaiser Permanente physicians. These activities will support the communication of new scientific information and clinical guidelines; acquisition of technical, behavioral, medical informatics skills; dissemination of clinical and delivery system innovation and best practices; and development of leadership knowledge and skills.

We will develop and implement activities using a variety of learning modalities, such as conferences, workshops, symposia, videoconferencing, self-administered and enduring materials such as videotapes, CD-ROM, and Internet-based CME activities.

Expected Results

We expect our educational activities to improve the care delivered by Kaiser Permanente physicians and by associate providers in the following ways:

- Clinicians will enhance clinical skills and effectiveness in caring for patients.
- Clinicians will implement tools from new technologies, practice guidelines, clinical innovations, and best practices to improve patient care.
- Clinicians will use effective communication and interpersonal skills to increase patients' satisfaction with their care experience.
- Clinicians will use effective collaboration and teamwork skills to increase continuity of care and patients' satisfaction with the care experience.
- Clinicians will acquire leadership skills in the development and management of care delivery systems to enhance member health and satisfaction.

Ultimately, educational activities should improve health outcomes, patient satisfaction with the care received, clinicians' satisfaction with their work, and effectiveness of the delivery systems to support the care provided to patients. Although the impact of any individual educational activity on these outcomes cannot be easily determined, the Kaiser Permanente National CME Program seeks to ensure that educational activities are planned with these results as goals. ❖

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Valentino

*Pink and pulsing
working hard
Urine flowing down
Not far!*

*Located in front,
instead of the back
Valentino's the best
of the three in the pack.*

*For this we thank our Auntie Maureen
guardian angel,
best that I've seen.*

*She restored my brother with new life
and now he can bug me for the rest of my life!*

By Rachel Johnston

As part of the preparation for a kidney transplant, patients are asked to give their new kidney a name. Peter Johnston chose the name "Valentino," meaning strong and healthy. Valentino's donor was Peter's Aunt, Maureen Johnston. The transplant was performed at the University of California, San Francisco Medical Center. Peter's sister, Rachel, age 12, wrote this poem following the transplant surgery. The poem was submitted by Sally J Cullen, MD, Peter and Rachel's pediatrician at the Kaiser Permanente Roseville Medical Offices in California.

Dreams From Childhood

Editor's note: This manuscript was submitted signed. We have decided to withhold the author's identity to preserve the anonymity of any involved persons.

A year and a half ago, fantasy and reality collided like an asteroid hitting the earth's surface and exploding into microscopic pieces. My life disintegrated, leaving me doubting my very existence. This was worse than my turbulent divorce from my high school sweetheart.

Shortly before my 37th birthday, I began having a recurrent nightmare: I felt a strong presence at the foot of my bed. I knew I was alone in the house but felt compelled to reassure myself by turning on a light in every room. Only then did I feel safe enough to climb back into bed. This became my ritual. In time, my nightgown made me feel vulnerable, like a child.

Then the real nightmare began. I would see myself lying on my left side and feel the pressure of someone pinning me down, pushing on my shoulder. I could feel warm, beer-scented breath along my neck. I could see only my torso; the lower half of my body did not exist. I knew that disassociating the lower half of my body was not a good thing. My medical background led me to suspect that I might have been sexually abused as a child. My grandfather, recently deceased, became my prime suspect. He always had alcohol on his breath.

For months I battled these dreams until insomnia began to compromise my work. I then realized I would not be able to face this alone.

I was starting to get angry. I prayed to have confirmation of my suspicions revealed to me. I would trigger the nightmare by lying on my left side. Each time I turned to see the face in my dream, I woke up, hyperventilating and overwhelmed with fear. I was confused. With my grandfather dead, why was my subconscious protecting me? Why wasn't his face revealed? For months I battled these dreams until insomnia began to compromise my work. I then realized I would not be able to face this alone.

I sought the help of a therapist. When I summoned the courage to reveal the nightmare, I could see he shared my suspicions. We planned to work on this when I returned from a trip to the East Coast to meet my fiancé's family, but after two sleepless nights, I was back in his office. My body defenseless from fatigue, I was eager to end the drama.

Overcoming my fear of being hypnotized by a man with a series of controls, I allowed myself to sink into a relaxed state. My first words were panicked, "The door is opening again!" "Where are you?" asked the therapist. "I don't know." "Look closer," he said. Silence for a moment until I realized I was in my bedroom. "Someone is in my room," I said. "Who?" "I don't know. It's dark and I can't see his face." I lay in silence,

searching my subconscious. I began a strange posturing, fists clenched and held against my thighs, knees slightly bent as I tried to hold them together. I began to sob and toss my head from side to side. In a begging tone of voice, I said, "Daddy, please stop; you're hurting me." The shock of my statement bolted through my body, overloading my circuitry. I lay there sobbing, every muscle clenched tightly. I could not respond to any more questions. I was shocked; it was my father, my own father.

Suddenly, I screamed out in a loud, commanding voice, "You leave her alone!" The therapist asked to whom I was referring. "My sister, Beth. We share the same bedroom." I did not speak another word for the next hour and a half. I sobbed in the same posture for the entire time. Slowly, the tears abated.

I was gently brought back to reality. I wanted to get out of there and be alone. I have never felt so dead in my life. I could barely take a breath. Everything hurt. My life was based on lies. The tumbleweed had more established roots than I did. I knew I would see my sisters on my trip to the East Coast; I did not know what I would say to them.

When my fiancé, Steve, and I arrived at my brother's house, my sister Kathryn was there. She and I took a walk and I revealed what I had recently discovered. "Was it Dad?" she asked before I finished the story. As I said yes, her face flooded with tears and she said she couldn't handle this right now. I told her that was fine and that we could talk when she was ready. We hugged and sobbed briefly, then returned to my brother's house.

Next was my sister Beth. I was not prepared for her initial response. Her face and body language walling me out, she said, "Just because family members have the same nightmares doesn't mean they went through the same thing." I told Steve we needed to go. As we prepared to leave, Beth stopped me and said, "We need to talk." I followed her into the library. For an hour and a half, Beth repeated the words, "Why am I not surprised?" I told her I was still getting used to it myself. We hugged and cried.

After I returned home, I saw the therapist every three weeks. While I was under hypnosis, we pieced together the story of my abuse. It began when I was four and continued twice weekly until my mother caught my father in bed with me when I was six. I could see her comforting Beth and me that night. I wondered how my mother could not have known about this before then. Weren't there any signs? My father was a violent man. He punched my mother in the stomach when she was five months pregnant with my sister Christina. Christina was born with a lump on her head, and her EEG was never normal. At the age of 14, she had brain surgery for a suspected aneurysm. Given this and what I had learned, I understood that my mother lived paralyzed in fear for her life.

I was taken by surprise one Thursday night when an urge to leave my house and be in my car overwhelmed me. I felt safe



and in control behind the wheel with the doors locked. The first Thursday this happened, I drove to the beach, parked, and began screaming, "How could you do this to me?" Over and over, the words poured out until I was hoarse and the energy dissipated. Only then could I return home. This recurred until my therapist and I decided we must examine these Thursday night rages.

Again I searched my subconscious. I could see my father standing at the end of my bed. The man who was supposed to love and protect me had hurt me in ways that were unspeakable. What I thought was molestation turned out to be the ultimate violent act of betrayal of a father, rape. I felt like a truck had hit me. How was I going to heal this? How was I ever going to be able to face my father again, let alone forgive him?

The following week, my sister Kathryn called to tell me she had just attended a conference entitled "Reuniting Incest Perpetrators with the Families." Hearing this crashed through any denial I had left. I called my father and told him I needed to speak with him for an hour of uninterrupted time. When we spoke, he listened for 15 minutes as I told him the saga of my nightmares and therapy sessions. When I finished, he calmly said, "Are you accusing me of sexual abuse?" I said, "Yes." He responded that no such thing had happened and that he was the adult and I was the child. Had I not known that perpetrators frequently deny their behaviors, I would have been even more devastated. I decided it was not safe to be in contact with my father for awhile.

As part of my healing process, I attended a three-day workshop, The Shadow Process. The exercises were earth shattering. I sobbed during the mirroring exercise as I said, "I am an incest survivor," and the three women across from me repeated my statement back to me. My chest swelled with sorrow, and gut-wrenching sobbing ensued. I felt as if an alien was bursting from my chest. A therapist came to help, having me repeat the statement. Between sobbing and the statement, I kept gasping, "Jesus, this hurts." It was 20 minutes before I could say, without sobbing, "I am an incest survivor." I felt as if I had given birth. In another exercise, I pounded my fists into pillows, screaming "You should die for what you did!" I visualized stabbing my father in the chest. The rage made me realize I was capable of homicide.

On my birthday, I received a card from my father. It had been a year and a half since I had confronted him, and I had not heard from him since then. I wondered if he missed having a daughter as much as I missed having a father. I called him, and he was happy to hear from me, asking when I would visit him. We talked for 15 minutes, all superficial talk. I felt good about the conversation. Maybe now I could let go and move on with my life.

In the end, my relationship with my siblings has suffered as a result of my discovery. My father continues to deny any wrongdoing. My siblings are torn between having a relationship with him and believing what I have discovered. There is a part of me that feels I have lost my family over this. The sadness is

overwhelming at times. My brothers think I am crazy and have not had any contact with me for over two years. My sisters keep in touch and keep the conversation superficially safe. I have learned to go on with my life without them for now.

***This was about a little girl
who was not safe
in her own home,
in her own bed,
from her own father.***

My isolation extends beyond my family. My closest friends, not knowing what to say, said nothing. Three or four weeks would go by without a call from friends who normally called regularly. Even though, as medical professionals they had jobs that exposed them to survivors of childhood molestation, dealing with the issue on a personal level was too hard for them. All I wanted from my friends was to tell them what happened to me and still feel accepted by them despite it. I felt bewildered by their response. This is not an easy topic to discuss—for anyone.

I came very close to leaving my profession of 15 years as a PA. I see that this experience has provided me with insight and compassion in my work. Statistically, one in three women have been molested as children.¹ How many more like me simply do not remember until late in their fourth decade of life?

This was about a little girl who was not safe in her own home, in her own bed, from her own father. My nightmares were literally created at night during my childhood between the ages of four and six. I had trouble understanding what happened to me. I have five younger sisters, and the thought that they might have been subjected to the same reality made the pit of my stomach turn with nausea. My father was a nocturnal pedophile, claiming his prey while our mother was sleeping in the next room. A few beers would make the memory a blur and allow him to deny his actions. The fact that we were so young would help keep his secret encrypted in our bodies for over 30 years. There were times when I could relate to a statement made by a Holocaust survivor, "Better I should have died than to live with the memory of this." There were times when death looked easier to face than the truth of my childhood.

I would not have chosen this as my truth. I share this in the hope that I will take back my life and create the possibility that others may benefit from my story. I have a new dream now. I dream that someday the pain in my family will be healed. I dream that someday I will be able to face my father and say, "Dad, I forgive you." ❖

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Announcements

Upcoming Events:

Pulmonary/Rheumatology Symposium

Thursday & Friday, March 7 & 8, 2002
Grand Californian Hotel, Anaheim, CA

Nuclear Medicine Symposium

Saturday, March 9, 2002
Hilton Hotel, Pasadena, CA

Sports Medicine Symposium

Friday, Saturday & Sunday
March 15-17, 2002
Northwoods Resort, Big Bear, CA

Head and Neck Surgery Symposium

Friday, Saturday & Sunday, April 5-7, 2002
Hyatt Grand Champions, Palm Springs, CA

Anesthesia Symposium

Saturday, April 13, 2002
Disneyland Hotel, Anaheim, CA

Population Care Management Symposium

Saturday, April 20, 2002
Grand Californian Hotel, Anaheim, CA

Radiology Symposium

Saturday & Sunday, April 27-28, 2002
Disneyland Hotel, Anaheim, CA

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

Book Available

Can Physicians Manage the Quality and Costs of Health Care? The Story of the Permanente Medical Group, by John G Smilie, MD.

This book can be purchased at the minimal cost of \$2 per copy. Contact Jon Stewart at 510-271-5955.

POSITION AVAILABLE:

CPMG CHIEF OF PREVENTIVE MEDICINE

The Colorado Permanente Medical Group (CPMG), in partnership with Kaiser Foundation Health Plan (KFHP), is seeking a dynamic Chief of Preventive Medicine.

In collaboration with KFHP Prevention Director, primary responsibilities include:

- Develops and communicates vision for prevention programs at Kaiser Permanente Colorado.
- Maintains knowledge of major advances in the practice of preventive medicine and within specialty area.
- Develops, implements, evaluates, and maintains guidelines that cover major areas of preventive medicine services.
- Recruits, hires, and manages high-quality staff for the preventive medicine program.
- Ensures prevention performance at preeminent levels.

In collaboration with CPMG Director of Research:

- The Chief of Preventive Medicine will have protected time to participate as an investigator in research conducted in Kaiser Permanente Colorado's Clinical Research Unit. This unit, which had a \$2.5 million budget in 2001, conducts clinical effectiveness and other research with funding from NIH, CDC, The Robert Wood Johnson Foundation, and other major public and private funders.

In addition to superb clinical skills, the successful candidate will possess excellent leadership skills and demonstrate a collaborative style. The initial year will include half-time clinical responsibility in boarded specialty in order to become familiar with care delivery model. Interested physicians may contact Chantal Papez, Physician Recruitment Coordinator, 10350 East Dakota Ave, Denver, CO 80231-1314; phone: 303-344-7302; e-mail: chantal.papez@kp.org.

Autumn Primary Care 2002: National Primary Care Conference

October 10-13, 2002

Disney's Grand Californian Hotel,
Anaheim, CA

For more information, contact
Conference Coordinator at 510-625-6374



Announcements

Annual Conference

***Primary Care 2002:
National Primary Care Conference***
March 24-29, 2002
Outrigger Wailea Resort, Wailea, Maui, HI

*For information, contact Dina Piccoli-Grieve at 510-625-6374
 or visit the Web site: www.kpprimarycareconference.org.*

The Lighter Side of Medicine

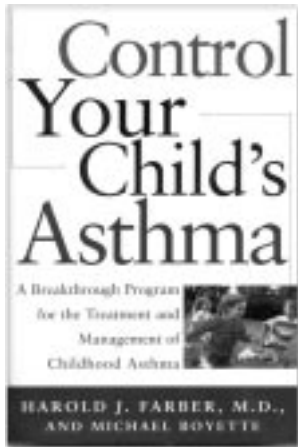
THE HUMERUS ZONE



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



Book Reviews



New York: Henry Holt; 2001;
ISBN: 0-8050645-5-9.
Paperback \$14.00. 256 pages.

Control Your Child's Asthma: A Breakthrough Program for the Treatment and Management of Childhood Asthma

by Harold J Farber, MD, and Michael Boyette

Review by **Richard M Roth, MD**

Asthma is a frightening and sometimes life-threatening disease. *Control Your Child's Asthma* is a well-organized book to be read and referenced by anyone—parent, health care practitioner, or other justifiably concerned person, such as a teacher with asthmatic students—who wishes to be as knowledgeable as possible in the art of managing and controlling childhood asthma from infancy through adolescence.

Control Your Child's Asthma has many pertinent, up-to-date bibliographic references. This feature should give the book high priority over most other similar works on an asthma-related reading list and is especially important for locating other authoritative sources of knowledge useful to those who care for asthmatic children. At the same time, however, this level of detail may limit the breadth of readership because the book does require a certain level of experience and education to be fully appreciated.

As is clearly indicated on the cover in boldface red letters, the book is about controlling (not curing) asthma. The road map to achieving or maintaining this control—as well as recapturing lost control—is beautifully, clearly, and (in most areas) simply laid out for the reader, and the book appropriately assigns a high degree of importance to a key aspect of good asthma control: finding a knowledgeable, competent health care practitioner and establishing an alliance with that person. Unfortunately, however, the book does not sufficiently emphasize the important fact that a cure for asthma does not exist, either at present or in the foreseeable future. This point should be presented more prominently because some parents who believe otherwise may be inclined to seek this mythical cure relentlessly and in ways detrimental to the child.

As good as this book is, future editions could make a few areas even better. I would point out that QVAR® is mentioned early in Chapter 7 but is missing from the drug table on the last page of the chapter. Moreover, the book does not overtly mention what has become the clarion call of asthma control: the “Rule of 2’s.” This topic would fit nicely (preferably highlighted in boldface type) under the existing heading, “Staying in the Green Zone.”^{1:108} The lengthy discussion on theophylline therapy could be replaced by a brief notation, eg, “This drug is rarely used today for asthma therapy.”

I would also point out that “mild intermittent” asthma^{1:108} is not a class of asthma severity recognized by the NHLBI Guidelines of 1997,² even though most experts would agree that children can have a mild, moderate, or severe degree of intermittent asthma. In addition, a brief reference to taking zafirlukast with food to enhance absorption^{1:73} is contrary to the actual recommendation.^{3,4}

Perhaps more encouragement would be given to parents and health care providers if, on page 57, mention were made of the newer, higher-potency inhaled corticosteroids, which provide more rapid onset of action (one to three days, in many cases).

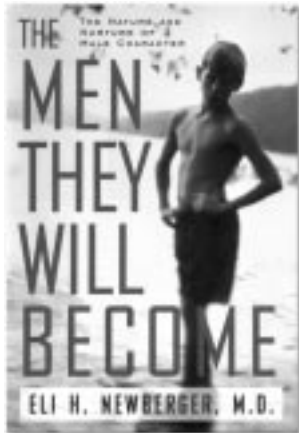
The book’s format makes liberal use of tinted boxes to emphasize important points, but I believe this technique could have been used even more. For example, greater visual emphasis would be useful in the section discussing inhaled corticosteroid use and its effect on growth (ie, a neutral effect, in most cases),⁵⁻⁷ because this issue arises repeatedly in practice. I would also advocate more liberal use of boldface type to highlight headings or key issues, eg, “Staying in the Green Zone”;^{1:108} and in the chapter on “Complementary and Alternative Treatments”; to the sentence (“None of these approaches can fully substitute for asthma medications”^{1:186}) I would add “or avoidance of triggers.”

Richard M Roth, MD has been with SCPMG for over 25 years, serving as the Chief of the Department of Allergy for the Orange County MSA, and is a physician co-lead for KP Southern California Asthma Care Management Program since its inception in June of 1998.

All in all, this first edition of *Control Your Child's Asthma* is a superb book for educating persons who are genuinely interested in understanding more about this common, complex, and all-too-often distressing syndrome of childhood. ❖

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The Men They Will Become: The Nature and Nurture of Male Character by Eli H Newberger, MD

Review by Eve Lynch

It is a truism often attributed to Yogi Berra that “If you don’t know where you’re going, you’ll wind up somewhere else.” If you could determine where your son was headed, where would that be? What kind of man would you want him to become? What character traits do you value and hope to develop in your son—for his own sake and for the sake of the world? *The Men They Will Become: The Nature and Nurture of Male Character* spurs the reader to contemplate these questions.

And this questioning is no mere intellectual exercise: in the book, author Eli Newberger, MD, states that although some basic characteristics of temperament are in place early in a boy’s life, parental influence and modeling are major factors in the development of his “character,” a broadly inclusive collection of traits that mark the ways in which people make life decisions and comport themselves toward others.

The Men They Will Become discusses major developmental stages in the life of a boy from his infancy through late adolescence as well as the character challenges he is likely to meet at each stage. These challenges—and the way they are managed—further shape who the person will become. (Although supposedly addressing development of boys, most of the information contained in this book is equally applicable to girls.)

The male infant “develops fundamental attitudes about himself and his surroundings”^{1:4} ie; develops trust or mistrust on the basis of whether his physical and emotional needs are met; and develops a capacity for intimacy on the basis of the attention he receives from caregivers. As a preschooler, the child’s world enlarges and he must

Reading, MA: Perseus Books;
1999. 372 p. \$25.00
ISBN: 0-7382-0113-8

Eve Lynch is a San Francisco attorney, now retired into motherhood.



Book Reviews

confront a new issue: conflict between his own interest and the rights of others. School-aged children confront issues of honesty and self-control as well as bullying and other forms of victimization. As adolescents, they encounter cheating, drug abuse, and problems of identity and friendship.

Under each of these rubrics, Dr Newberger weaves profiles and interviews of real boys, anecdotes, literary quotations, clinical studies, and his own insight as a pediatrician to illustrate how boys negotiate personal and social problems, resolution of which shapes the emerging man. The most successful boys—ie, those who possess admirable character traits and act accordingly—are those whose lives included parents or other significant adults who clearly communicated their expectations for the child's behavior; who discussed options for handling difficult situations; and who expected the children to live with the consequences of their actions. These children also were likely to have observed their parents in a situation where the parents modeled the behavior; in other words, the parents “practiced what they preached.” For children with this type of adult support, even difficult situations were transformed into character-building opportunities with lasting positive value. The book contains practical tips on how to foster this type of relationship with a child and how to elicit dialogue with children of different ages to make them more receptive to discussing serious issues with their parents.

In striking contrast to the examples of successful parent-child character-building teamwork, the book also contains alarming illustrations of youthful character development that was seriously compromised by parents who sought to exempt their child or other family members from the consequences of the child's criminal behavior or other proscribed activities.

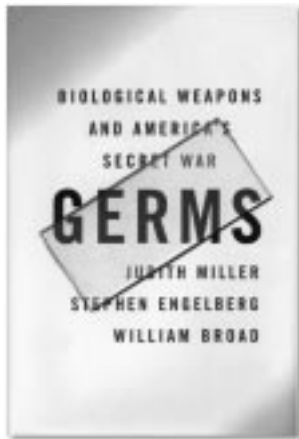
In an important chapter on teasing and bullying, Newberger discusses the serious harm caused to children by behaviors that, when committed by adults against adults, are normally handled by criminal or civil courts but which have long been treated as an inevitable part of childhood. In contrast to the “blind eye” treatment given by most schools to such behavior, the author reports that some schools now preemptively teach respect and empathy for children who are most likely to become victims of teasing and bullying; this preemptive teaching recasts teasing and bullying as “injuries to the community.”^{1,201} These programs are proving effective, a result that shows that children's inclination toward bad behavior can be tempered by effective adult intervention. In addition, instead of merely meting out punishment on an episodic and rules-oriented basis, educators who seek reasons for the bullying may help to “heal the offender as well as his target, and to reinforce the values of the community.”^{1,201}

Newberger also argues convincingly that organized sports fail to qualify as the healthy form of “play” needed by boys and that these activities instead distort the very traits of “character” that sports are traditionally purported to engender in boys. Moreover, Newberger asserts, these activities have even led to the decline of “sportsmanship” throughout our society.

At one point in the book, Newberger concludes, “males get to this highest level of trustworthiness [or, it seems clear, to the highest level of any other positive character trait] ... by encountering someone who embodies it. It is a level of character that is much more effectively caught than taught.”^{1,209} This statement reminds parents and other concerned adults to comport themselves in ways they would like the next generation to reflect. After all, if we don't put effort into directing our sons, we shouldn't be surprised if they wind up somewhere else. ❖

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Germs: Biological Weapons and America's Secret War

by Judith Miller, Stephen Engelberg, William Broad

Review by Vincent J Felitti, MD

Until recently, most of us never thought about biological warfare. Few of us know anything factual about it. Now, however, and most timely, three staff writers from *The New York Times* have given us an important, well-written book about biological warfare.

Many people have largely written off biological warfare as merely a highly effective form of psychological warfare and too uncontrollable for serious military use. After all, these people have reasoned, how could anyone send soldiers into an area rendered contagious? That thinking made sense until September 11, when it became clear that the great technical skill of responsible personnel could be circumvented by the theft or illicit purchase of biohazardous materials for suicidal destruction, not conquest, of innocent civilian people and property; and that the perpetrators and supporters of this destruction could represent it as an act of martyrdom.

Germs opens with a detailed description of the planned, complex bioterrorist attacks carried out in Oregon in the 1980s by a religious group known as the Rajneeshees. Many of us have only a dim memory of those episodes. Like many topics in this Winter issue of *TPJ*, they seemed improbable events. They were terribly disturbing if true, and they were only fractionally reported in the press because of governmental concern that full exposure might lead to copycat episodes. Secrecy, threat, and implausibility are the engines that drive denial. We all tend to deny the existence of things with which we can't cope.

The book then delves into the complex psychology that interprets any significant change as an ordeal, even if the change is for the better. And acknowledging the realistic threat of biological warfare involves changing a basic concept of warfare; changing such a basic concept does not happen easily, especially in hierarchical organizations like the military. Yet, in the years since 1969, when President Nixon shut down all American biological warfare production at the US Army Pine Bluff Arsenal, Arkansas, the realization slowly emerged that the USSR had begun its own biowarfare version of the Manhattan Project (the World War II US-sponsored project to develop the atom bomb). The authors describe and document this activity so extensively as to eliminate all doubt. In this context, the recently announced American decision not to destroy our stores of smallpox virus becomes reassuring.

The book's main revelation is the magnitude and remarkable skill of the Soviet Union's biological warfare efforts: These activities dwarf any of ours that had been underway when we stopped research and production. For instance, the Soviets successfully reengineered bacteria and viruses that can induce demyelinating disease (p 302) long after all signs of initial infection disappear; this process thus makes detection of the initiating cause nearly impossible. Soviet researchers also spliced the diphtheria toxin gene into the plague bacillus to create an entirely new disease (p 303). The staggering amounts of biological warfare material they stockpiled include tons of smallpox virus (p 311). Worse yet, with the collapse of the USSR, responsible control of these products disappeared, leaving large numbers of sophisticated biowarfare scientists suddenly unemployed in a dead economy. These highly skilled scientists instantly became prime candidates for employment by Iraq, Iran, Syria, and North Korea—nations that now have dangerous biological warfare capabilities.

Complicating this scenario is the related story of how this information is obtained by the CIA or provided by defectors. After such information is validated, it has a long and difficult passage through the government bureaucracy, where it is buffeted by the emotions as well as the politics of multiple officials. *Germs* makes it clear that few officials wish to take any stand that creates a paradigm shift. Nonetheless, some ingenious partial solutions at times have occurred, such as the US Government's purchase of dangerous USSR biowarfare materials and joint US-Russian research projects designed to employ at least some former Soviet researchers, thus diverting their expertise from terrorist nations. However, most of the problem remains unsolved, and a few nations—such as Iraq, which in 1995 admitted to producing thousands of gallons of germ warfare

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materials (p 289)—are totally beyond the reach of even these partial solutions.

The remarkable Harvard biologist Edward O Wilson once commented that the Nobel Prize is won by bright children whom no one ever sufficiently loved (Personal communication, December 12, 2001).³ Who, then, are these people who become terrorists? And how does that question relate to articles in this issue, whose focus is pediatric topics? The seemingly powerless—whose childhoods may have been influenced in ways we cannot readily know—now can wreak great damage on a modern, powerful country if they are willing to die in the attempt by flying airplanes into buildings or by volunteering to become a smallpox carrier. Who are these people, and how do they come to be?

For all the information and insight contained in the book, however, vast problems remain. The current anthrax scare mainly demonstrates the psychological power of biological warfare; the main biological dangers have not yet been seen. We are not prepared for them. The problem is not simple, and the solution is not self-evident. ❖

³ University Research Professor, Harvard University, Cambridge, MA.



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editions: www.Alibris.com
or www.abebooks.com

Ms Kittrelle is a nurse practitioner who worked for many years in SCPMG's Department of Preventive Medicine in San Diego. She suggests these two Web sites for those interested in what happens to and becomes of children: www.alice-miller.com, and www.nospank.org.

For Your Own Good: Hidden Cruelty in Child-Rearing and the Roots of Violence

by Alice Miller, PhD, Translated by Hildegarde and Hunter Hannum

Review by Robin Kittrelle, RNP

***"The truth about childhood is stored up in our body, and although we can repress it, we can never alter it. Our intellect can be deceived, our feelings manipulated, our perceptions confused, and our body tricked with medication. But someday the body will present its bill ..."*—Alice Miller¹**

Alice Miller, PhD, is a German psychoanalyst whose mission in life is to make the world a better place for children by helping the adults who care for them understand their *own* childhood events. She has written ten books about the effects of childhood on the lives of adults. Her equally important other goal is to expand that responsibility to society—ie, the villages that raise the children. *For Your Own Good* may be Dr Miller's most renowned book, and this review doubles as a tribute to Dr Miller and to her firm and persistent voice.

Miller writes about a "helping witness"—someone who acts (routinely, or even once at a critical time) with kindness toward the child and who somehow, by looking into the child's eyes, shows the child another way to live and be. This helper may have no idea of his or her role but nonetheless acts as a counterweight to the cruelty or neglect a child experiences. Dr Miller says that a critical prerequisite for normal survival is that *at least once* in their lives, mistreated children come into contact with a person who understands that the environment, not the child, is at fault. This helping witness teaches the child that he or she is worthy of kindness. This lesson is the basis for resilience.

Dr Miller also describes a "knowing or enlightened witness"—someone who understands the importance of being a helping witness. This person recognizes the adverse effects of childhood trauma or neglect and is willing to give emotional support that helps a child understand and express true feelings. Sadly, the first (and perhaps only) "knowing witness" in most people's lives is often a therapist—but readily could be any physician, nurse, or teacher who is willing to understand what the child sees every day.

In her struggles with the question, "What causes evil in the world?" Miller writes here about the childhood of Adolph Hitler, Josef Stalin, and other mass murderers. Most recently, she wrote about corporal punishment.² She documents a worldwide fact: Most of today's parents and teachers were physically punished as children.



Society's argument to justify this phenomenon is that being beaten, especially by a parent, prepares children for life and helps them learn to be obedient; indeed, we are all familiar with the exhortation to "beat some sense into [him/her/them]." In disagreement with this viewpoint, Miller argues that being beaten and unable to defend themselves only teaches children that they are not worthy of protection or respect. Beaten children become humiliated and confused although soon are taught that the beating is "for their own good" and does no lasting harm. Much later, this type of beating becomes a part of their own so-called good parenting—forming the basis for much violence in the world. The events of September 11, 2001, have provided the world an additional example of anger, revenge, and ignorance expressed as violence toward oneself and others—and have brought Miller's *For Your Own Good* back into focus. ❖

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Complete book

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Section A.

Article 1. Perinatal Screening for Congenital Malformations and Genetic Disorders: Current Status and Future

Directions. (page 15)

Newborn screening is currently done in all states for:

- Phenylketonuria, galactosemia, hypothyroidism, hemoglobinopathies
- Cystic fibrosis, adrenogenital syndrome, phenylketonuria, hypothyroidism
- Phenylketonuria, galactosemia, hypothyroidism
- Hearing loss, phenylketonuria, galactosemia, hypothyroidism

Voluntary prenatal screening has particular utility (and was recently endorsed by ACOG) when offered for which of the following:

- Cystic fibrosis
- Down syndrome, measuring the first-trimester nuchal fold, hCG, and PAPP-A
- Organic acidemias
- Fatty-acid oxidation disorders

Article 2. West Meets East: A Kaiser Permanente Mid-Atlantic Experience in Providing Adolescent Health Care. (page 21)

All of the following are considered roadblocks to the development of a successful adolescent clinic except:

- Absence of a good public transportation system
- A lack of pediatric providers committed to practicing adolescent medicine
- Dedicated clinical space
- Resistance of appointment clerks to book teen appointments without parental permission

Which of the following statements about adolescent health risk statistics is false?

- The use of anabolic steroids by middle school and high school students has increased in the last three years
- Suicide is the number one cause of death among adolescents
- Despite recent prevention efforts to teach safe sex and abstinence, the percentage of sexually active high school students has not decreased
- The percentage of teens who use nicotine-related products is 18%

Article 3. Evidence-Based Clinical Vignettes from the Care Management Institute: Major Depression. (page 34)

A 24-year-old, newly married female presents with a six-week history of multiple complaints, including hypersomnia, weight gain, abdominal pain, and "memory loss." Her past history is remarkable for an appendectomy. She has used depo-provera for birth control for the last year, without noticeable side effects. Her vital signs are unremarkable, and results of her physical exam are notable only for mild obesity and an appendectomy scar. Her pelvic exam results are normal. Upon further questioning, she admits to depressed mood and tearfulness. She denies alcohol or drug use and denies current or past domestic abuse. Her TSH level is normal. You diagnose major depression, first episode, moderate severity. Which of the following is the least appropriate initial treatment:

- Fluoxetine, 20 mg daily
- Despiramine, 50 mg orally in the morning
- Referral for psychotherapy
- A and C



The patient elects antidepressant treatment. She shows some improvement at three weeks; eight weeks later, she is feeling "100% normal." She has no remaining symptoms and is very pleased. She wants to stop medication. Which of the following is the appropriate recommendation:

- a. Stop the medication because the depression is resolved
- b. Stay on the medication another three months, then discontinue it
- c. Stay on the medication at least another six months, then reassess
- d. Decrease the medication dose by 50% and see the patient back in four weeks

Article 4. **Medical Futility** (page 52)

Which of the following is not used as a criterion for determining futility?

- a. Wheelchair bound
- b. Professional standards
- c. Percentage success/failure
- d. Physiologic status

Which step should be taken when approaching futility situations?

- a. Write a no-code order
- b. Send the patient home
- c. Refer to hospice
- d. Seek consultation in case of disagreement

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

	Article 1					Article 2					Article 3					Article 4				
	Strongly Agree		Strongly Disagree			Strongly Agree		Strongly Disagree			Strongly Agree		Strongly Disagree			Strongly Agree		Strongly Disagree		
	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1	5	4	3	2	1
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