By Nancy P. Gordon, ScD; David S. Sobel, MD, MPH

Use of and Interest in Complementary and Alternative Therapies Among Clinicians and Adult Members of the Kaiser Permanente Northern California Region: Results of a 1996 Survey

To assess use of complementary and alternative therapies and interest in including them among member services, questionnaires were mailed to randomly selected clinicians and adult Health Plan members of the Kaiser Permanente Northern California (KPNC) Region in Spring 1996. Responses were received from 61% (n=624) of adult primary care (APC) physicians, 70% (n=157) of obstetrics/gynecology (ob/gyn) clinicians, and 50% (2 surveys, n=1,507 and n=17,735) of adult Health Plan members. Nearly 90% of clinicians reported recommending at least one type of alternative therapy in the previous 12 months. Approximately 50% of members reported ever using at least one type of alternative therapy, and 31% of these members reported doing so in the past 12 months. Use was higher among women and among members under age 65 years. Chiropractic, acupuncture, massage, and relaxation training/meditation were the methods most often cited by members and clinicians, and management of pain or stress were the most frequently cited reasons for use. Ob/gyn clinicians recommended herbal and homeopathic medicines, special diets, and megadoses of vitamins and other supplements more often than adult primary care physicians. Two thirds of APC physicians and three fourths of ob/gyn clinicians were at least moderately interested in recommending alternative therapies, and nearly 70% of young and middle-aged members and 50% of senior adult members were interested in having alternative therapies incorporated into their health care. Clinicians and members requested manipulative and behavioral medicine therapies more frequently than homeopathic or herbal medicines. Many clinicians were reluctant to recommend types of therapy not covered by the Health Plan, but clinicians also did not want the Health Plan to cover complementary and alternative modalities without validating their effectiveness.

"Nearly 90% of clinicians reported recommending at least one type of alternative therapy in the previous 12 months ... two thirds of APC physicians and three fourths of ob/gyn clinicians were at least moderately interested in recommending alternative therapies."

Recent surveys have indicated that the concept of treating health problems by using complementary or alternative medicine (CAM) in addition to conventional Western approaches has been gaining acceptance in the United States among the general public as well as among primary care practitioners. On the basis of surveys of the US adult population, Eisenberg and colleagues[1] have suggested that use of CAM is increasing substantially, as shown by an estimated 34% of adults reporting use of at least 1 of 16 types of alternative therapy in 1991 and 42% of adults reporting such use in 1997. The largest increases in CAM use were reported for herbal medicine, homeopathy, megavitamin use, massage, self-help groups, folk remedies, and energy healing.

Surveys have also shown that substantial numbers of traditionally trained US health care professionals are either incorporating or considering incorporating CAM therapies into patient care,[2,3,4,5] although these approaches have been mostly limited to diet and exercise, behavioral medicine techniques (eg, counseling/psychotherapy, relaxation training, biofeedback) and manipulative therapies (eg, chiropractic, massage, and acupuncture). Many health insurance companies now routinely cover chiropractic care, some cover acupuncture, and others cover naturopathy, reflexology, and other unconventional practices.[6]

In 1996, we surveyed adult primary care (APC) physicians, obstetrics/gynecology (ob/gyn) clinicians, and adult Health Plan members in the Kaiser Permanente Northern California Region (KPNC) to learn what CAM therapies clinicians were recommending to members for treatment of health conditions, what CAM therapies members were using, and what CAM therapies both these constituencies wished the Health Plan to include in its coverage. Most of the data that appear in this article, as well as a more comprehensive literature review, were originally published in the *Western Journal of Medicine*.[7]

Methods

In Spring 1996, questionnaires were mailed to APC clinicians and adult Health Plan members specifically about CAM therapies, and a more general questionnaire about health was mailed to members separately. The questionnaire specifically about CAM was sent to 1027 physicians of The Permanente Medical Group who practiced at least 50% time in a department of APC medicine and to 225 randomly selected ob/gyn physicians and nurse practitioners. Clinicians were selected from among those practicing at the 32 KPNC medical facilities. Ob/gyn clinicians were included in

NANCY P. GORDON, ScD, (left) is a Research Investigator with the Division of Research in Kaiser's Northern California Region. E-mail: npg@dor.kaiser.org
DAVID S. SOBEL, MD, MPH, (right) is the Regional Director of Patient Education and Health Promotion for Kaiser's Northern California Region, editor of the Mind/Body Health Newsletter, and author of Mind & Body Health Handbook. E-mail: David.Sobel@kp.org

the study because they frequently provide all primary care for some women and routinely provide care for gynecologic conditions such as premenstrual syndrome and menopausal symptoms. The survey about CAM was mailed to a randomly selected group of approximately 3000 adult Health Plan members stratified by age and gender. The survey asked members about their use of CAM therapies (or, if a clinician, their recommendation of CAM therapies for their patients) and whether the Health Plan should incorporate CAM therapies into its health care delivery system.

With the stated goal of assisting KP in making informed decisions about Health Plan services, the general health survey was mailed to a stratified group of 34,000 randomly selected adult Health Plan members. The survey asked about the members' use of 20 CAM therapies as well as other information about health, health care utilization, and sociodemographic characteristics. Data from this larger, nonspecific survey were used to estimate the extent to which CAM therapies are used by adult Health Plan members overall as well as the extent to which the therapies are used by male and female members, members aged 20-64 years, and members aged 65 years and older. The survey also asked these members their reasons for using CAM therapies.

In accordance with the Dillman method,[8] each survey used up to three mailings to obtain as many completed questionnaires as possible. To determine possible response bias, we conducted telephone follow-up of randomly selected nonrespondents to the alternative therapy surveys. Responses to the member surveys were assigned a weight based on member age and gender so that our estimates of CAM use among the respondent sample would best reflect usage and opinions of the overall adult Health Plan membership.

To estimate the prevalence of CAM use, clinicians were asked to indicate which of 20 CAM therapies they had used for or recommended to patients during the past 12 months. In both the CAM and the general health surveys, members were asked whether they had used CAM therapies at any time and, more specifically, whether they had used CAM therapies during the past 12 months. The questionnaires also briefly described CAM therapies. Clinicians and members were also asked to list the health conditions for which they had used (patients) or recommended (clinicians) CAM therapies.

To better understand Health Plan members' experience with CAM therapies, members who had ever used chiropractic, acupuncture, relaxation training/meditation, or herbal or homeopathic medicine were asked for additional information about their use. Responses to these supplemental questions were then linked back to the main questionnaire to identify conditions for which specific CAM therapies were used as well as how recently these therapies had been used. The supplemental questions included a checklist of factors which affected members' decision to use CAM (eg, sources of referral/recommendation, reason for using CAM), purpose for using CAM (eg, to treat or prevent acute or chronic symptoms), and perception of effectiveness of the method for their health condition.

Most of our analyses were descriptive and did not test for statistical significance. However, chi-square tests were used to assess statistical significance of any differences in CAM use among groups.

Results

Clinician Survey

Approximately 61% (n=624) of APC physicians and 70.4% (n=157) of ob/gyn clinicians responded to the survey. APC clinician respondents were primarily male (68%), aged 44 years or younger, either white (69%) or Asian (23%), and board-certified in internal medicine (80%). Ob/gyn clinician respondents, one fourth of whom were nurse practitioners, were primarily female (57%), aged 45 years or older (52%), and were primarily white (79%) or Asian (12%). A telephone survey of randomly selected physician nonrespondents showed that respondents and nonrespondents did not differ with regard to gender, age, number of years practicing with The Permanente Medical Group, interest in using CAM therapies, or interest in having covered health benefits include CAM.

Clinicians' Use or Recommendation of CAM Therapies

Overall, 93% of APC and ob/gyn clinicians used for or recommended to their patients at least one of 20 CAM therapies during the previous 12 months. When use of psychological counseling, 12-step and other support groups, religious healing/prayer, and special diets (which were often low fat or low sodium to treat or prevent heart disease, hypertension, and diabetes) were excluded, 89% of all clinician respondents had used for or recommended to their patients at least one type of CAM therapy (Table 1). At least 30% of clinicians reported that they used for or recommended to their patients psychological counseling, relaxation techniques, 12-step or other support programs, acupuncture, massage therapy, chiropractic treatment, biofeedback, and

"Chiropractic, acupuncture, massage, and relaxation training/meditation were the methods most often cited by members and clinicians, and management of pain or stress were the most frequently cited reasons for use."

Table 1. Alternative therapies currently being used or recommended by adult primary care and obstetrics/gynecology clinicians for patient care

Alternative therapy	Adult primary care clinicians (n=624) %	Obstetrics/ gynecology clinicians (n=157) %
Manipulation therapies:	72.9	68.1
Chiropractic	33.6	37.6
Osteopathy	5.1	5.7
Acupuncture	57.2	42.7
Acupressure	30.9	30.6
Massage therapy	42.5	44.6
Body work	7.5	12.1
Ingested therapies:[a]	29.5	54.1
Herbal/botanical medicine	8.8	29.3
Homeopathic medicine	2.7	9.5
Special diet	18.3	28.0
Megadoses of vitamins, etc.	8.3	21.7
Mind/body therapies:	74.8	70.7
Meditation/mindfulness	48.9	45.8
Relaxation techniques	67.6	63.7
Guided imagery/visualization	16.7	22.9
Biofeedback	31.9	22.9
Hypnosis/self-hypnosis	11.5	14.0
Movement therapies:	27.7	26.1
Yoga	19.5	22.9
Tai chi/chi gong	17.9	10.2
Supportive therapies:	84.9	80.2
Religious healing/prayer	13.6	12.7
12-step program/support group	58.0	48.4
Psychological counseling	78.7	77.1

[a]Many of the clinicians who indicated using or recommending special diet just described the type only as "low-fat" or "low-sodium." Thus the prevalence reported for this modality is likely inflated by providers who recommended more conventional diets for heart disease, diabetes mellitus, and hypertension. Excluding special diet, the proportions of clinicians who reported recommending ingested therapies are 16.3% for adult primary care physicians and 42% for obstetrics-gynecology clinicians.

acupressure. Fewer than 10% of clinicians reported using for or recommending to their patients herbal or homeopathic medicines or megadoses of vitamins and other supplements. Ob/gyn clinicians were significantly more likely than APC physicians ($p < .001$) to recommend use of herbal medicines (recommended by 29.3% of ob/gyn clinicians vs 8.8% of APC physicians), homeopathic medicines (recommended by 9.5% of ob/gyn clinicians vs 2.7% of APC physicians), special diets (recommended by 28.0% of ob/gyn clinicians vs 18.3% of APC physicians), and megadoses of vitamins and other supplements (recommended by 21.7% of ob/gyn clinicians vs 8.3% of APC physicians).

Chiropractic, acupuncture, acupressure, and massage therapy were recommended primarily for treatment of musculoskeletal and nerve/joint pain, and biofeedback was recommended primarily for treatment of headache. Relaxation techniques and meditation/mindfulness were recommended primarily for stress management and pain control. Hypnosis was recommended mostly for smoking cessation and pain control. Among APC physicians, herbal medicines were recommended mostly for treating upper respiratory infection, sleep-related problems, and fatigue; ob/gyn clinicians recommended herbal medicines mostly for treating symptoms of menopause and premenstrual syndrome.

Clinicians' Interest in Using CAM Therapies; Barriers to Use

Two thirds of APC physicians and three fourths of ob/gyn clinicians expressed at least moderate interest in use of CAM therapies to treat health problems, whether used alone or in combination with more traditional Western medicine; 35% of APC physicians and 45% of ob/gyn clinicians were very interested in use of CAM therapies. For clinicians who were at least moderately interested in use of CAM therapies, the strongest motivating factors appeared to be inability of some patients to obtain adequate therapeutic results from conventional methods and the belief that many health problems are more effectively treated by using a more holistic approach than afforded by conventional Western medicine (Table 2). A substantial proportion of clinicians indicated that they were becoming increasingly interested in CAM therapies—both because of an increasing number of requests from patients and because the clinicians believed that HMOs must offer CAM therapies to remain competitive; however, these factors were generally not reported as strong motivators for clinicians' interest in CAM therapies.

Table 2. Factors motivating clinician interest in use of alternative therapies to treat health problems[a]

Factors	Motivating interest	
	A great deal (%)	Somewhat (%)
Problems presented by patients that cannot be adequately treated with more conventional methods	58.9	38.1
Belief that many health problems can be more effectively treated using a mind/body or holistic approach than a more conventional, Western approach	35.6	49.1
Growing patient demand for these methods	24.0	68.2
Perception that Kaiser must start offering alternative therapies to remain competitive	22.8	45.8
Experiences of friends/relatives	19.1	49.1
Own experience being treated	17.0	28.5
Belief that alternative therapies have fewer side effects than conventional methods	15.7	46.2
Articles read in professional journals	5.8	42.1
Recent media attention to these methods	5.8	38.5

[a]Reported for a combined sample (n = 530) of 413 adult primary care physicians and 117 ob/gyn clinicians who indicated at least moderate interest in use of alternative therapies.

Approximately two thirds of APC physicians and three fourths of ob/gyn clinicians indicated that they wanted more opportunity to use CAM therapies to treat patients' health problems, whether these therapies were provided internally (ie, at Health Plan facilities) or by non-Health Plan clinicians acting under contract with the Health Plan. Fewer than 15% of APC physicians and 10% of ob/gyn clinicians stated emphatically that they did not want the Health Plan to make CAM methods more available. Desire for greater availability of CAM therapies was indicated by 91.4% of clinicians who were highly interested, 76.7% of clinicians who were moderately interested, and 30.5% of clinicians who had little or no interest in CAM.

The CAM therapies which APC clinicians wanted most to be included in Health Plan coverage were acupuncture (84%), biofeedback (80%), acupressure (63%), hypnosis/self-hypnosis (57%), chiropractic (52%), yoga (79%), and therapeutic massage (44%). More than half the APC clinicians indicated that they did not want herbal medicines (51%) or homeopathic medicines (66%) to be made available. Ob/gyn clinicians expressed more interest than APC physicians in making some CAM therapies more available: 44% of ob/gyn clinicians vs 15% of APC clinicians wanted greater availability of herbal medicine; 24% of ob/gyn clinicians vs 7% of APC clinicians wanted greater availability of homeopathic medicines; and 61% of ob/gyn clinicians vs 44% of APC clinicians wanted greater availability of massage therapy.

The most commonly expressed concerns about increasing members' access to CAM methods were that they are merely a fad and that they have not been scientifically proved effective. In explaining why they did not want expanded coverage for CAM therapies, relatively few clinicians expressed concern about potential cost to the Health Plan. For a subset of CAM methods, clinicians were asked to indicate their main concerns about using or recommending these methods (Table 3). For chiropractic, acupuncture, and relaxation/meditation techniques, more than 40% of clinicians who stated a reason for not recommending the therapy indicated that it was not a covered benefit. Substantial per-

"The most common factor motivating clinician interest in use of alternative therapies was problems presented by patients that cannot adequately be treated with more conventional methods."

Table 3. Reasons primary care clinicians have been reluctant to use/recommend alternative therapies[a]

	Alternative therapy					
	Chiropractic (n=496)	Acupuncture (n=310)	Acupressure (n=310)	Herbal/Homeopathic medicines (n=512)	Relaxation/Meditation techniques (n=178)	Hypnosis/self-hypnosis (n=324)
Not familiar with method (%)	18.5	24.5	46.1	37.9	37.1	45.1
Think method is ineffective (%)	28.0	22.6	23.2	48.4	13.5	22.2
Think method is harmful (%)	45.4	1.9	0.0	31.6	2.8	6.8
Method not a covered benefit (%)	44.5	52.3	0.0	9.4	43.8	33.6

[a] Based on a combined sample of adult primary care physicians and ob/gyn clinicians. Percentages reflect the numbers of clinicians who indicated this response from a checklist of reasons. Multiple reasons were permitted.

centages of clinicians stated that chiropractic was ineffective (28%) or possibly harmful (45%) and that herbal medicine was ineffective (48%) or possibly harmful (32%). Substantial percentages of clinicians indicated that they lacked familiarity with acupressure (46%), hypnosis (45%), herbal/homeopathic medicines (38%), and relaxation/meditation techniques (37%). Fear of malpractice suits or loss of colleagues' respect did not appear to be deterring factors.

Although many clinicians expressed a desire for greater Health Plan member access to CAM therapies, most clinicians stated that they do not adequately understand how these methods work and for what types of health problems they are effective. Fewer than half of APC physicians claimed to be fairly knowledgeable about psychological counseling (42%) and mind/body medicine techniques such as relaxation training (45%), meditation/mindfulness (35%), and biofeedback (30%). Similarly low percentages claimed to be fairly knowledgeable about manipulative therapies, such as chiropractic (34%), acupuncture (39%), acupressure (23%), and massage (26%). Fewer than 10% claimed to be knowledgeable about homeopathic and herbal medicine, and only 12% claimed to be knowledgeable about use of vitamins and other dietary supplements. Knowledge of CAM methods was fairly similar among the ob/gyn clinicians, although significantly more ob/gyn clinicians (20.8%) than APC physicians (8.6%) claimed to be knowledgeable about herbal medicine ($p < .001$); and significantly more ob/gyn clinicians (21.4%) than APC physicians (12.1%) claimed to be knowledgeable about vitamins and other dietary supplements ($p < .01$). Although clinicians' knowledge about and personal experience with CAM therapies was not extremely high, clinicians seemed to be interested in learning more about CAM therapies. More than 40% of APC physicians reported having read at least one article about use of CAM during the previous 12 months, and nearly 30% had attended at least one lecture about CAM. In response to a question concerning interest in learning more about CAM through Continuing Medical Education (CME) programs, substantial percentages of APC physicians indicated interest in acupuncture (52%), chiropractic (42%), acupressure (41%), relaxation techniques (38%), meditation/mindfulness techniques (31%), massage therapy (24%), hypnosis (32%), biofeedback (30%), herbal/homeopathic medicine (35%) and yoga/tai chi (28%). Fewer than 20% of APC clinicians expressed interest in learning more about therapy using megadose dietary supplementation, psychological counseling, support groups, or prayer. Interest in these topics was similar among ob/gyn clinicians, although more ob/gyn clinicians than APC clinicians showed interest in learning about herbal/homeopathic medicine (54%), megadoses of supplements (35%), guided imagery (36%), massage therapy (38%), and hypnosis (45%).

"The second most common factor was the belief that many health problems can be more effectively treated using a mind/body or holistic approach than with a more conventional Western approach."

Clinicians' Interactions with Patients about Using CAM Therapies

Approximately one third of APC physicians and 40% of ob/gyn clinicians said that they never or rarely asked about alternative therapy use when taking a medical or medication history; 27% of APC and 22% of ob/gyn clinicians reported asking often about patients' use of CAM therapies. However, 80% of APC and ob/gyn clinicians said that their patients at least sometimes mentioned using or considering use of CAM therapies when talking about their initial health problems, and 28% of APC and 32% of ob/gyn clinicians said that this occurred often. Clinicians reported that their patients most often mentioned chiropractic (mentioned to 67% of APC physicians and 48% of ob/gyn clinicians), herbal medicine (mentioned to 36% of APC physicians and 62% of ob/gyn clinicians), and acupuncture (mentioned to 34% of APC physicians and 29% of ob/gyn clinicians).

Health Plan Member Surveys

Responses were received from approximately 50% (n = 1507) of the 3000 members in the stratified, randomly selected group who received the questionnaire about CAM therapy and from 53% (n = 17,735) of the 34,000 members who received the general health survey questionnaire. Most (nearly 70%) of the questionnaire recipients were white, 12% were Asian, nearly 10% were Hispanic/Latino, about 6% were African American, and 5% were of other race and ethnicity. Three fourths of questionnaire recipients completed at least some college or technical school, including approximately one third who completed at least a four-year college degree. The sociodemographic characteristics of members who returned the general health survey were used to estimate recent and other use of CAM therapies and were virtually identical to characteristics of members who received the CAM survey.

In the telephone interviews conducted with nonrespondents to the CAM survey, young and middle-aged adults expressed a desire similar to that of respondents to have CAM available in HMO patient care as well as to have the Health Plan cover specific CAM therapies. Nonrespondents aged 65 years and older were less positive than respondents about CAM, but their response rate (over 70%) obviated any major concern about response bias.

Health Plan Members' Use of CAM

On the basis of members' responses to the general health survey, we estimate that approximately 31% of adult members in KPNC used at least one listed CAM therapy during the previous 12 months (25% of adult members if special diet and supportive therapy are excluded from the calculation) and that nearly 50% had ever used at least one listed CAM therapy (43% of adult members if special diet and supportive therapy are excluded). Table 4 shows estimated percentages of members aged 20 years to 64 years and those aged 65 years and older who said they had used any of the listed CAM therapies. Chiropractic, massage therapy, relaxation techniques, and psychological counseling were the methods most frequently used; fewer than 10% of members had ever used herbal or homeopathic medicines. In general, younger and middle-aged adults were more likely than older members to have used CAM.

Members used manipulative therapy, such as chiropractic and acupuncture, primarily for musculoskeletal pain but also for allergy (acupuncture and acupressure), smoking cessation (acupuncture), symptoms of premenstrual syndrome (acupuncture in women aged 44 years and younger), and stress (acupressure and massage). Herbal and homeopathic medicine were used for upper respiratory infection, general health maintenance, pain, allergies, mental illness/depression, stress, sleep problems, fatigue, gastrointestinal problems, and among women, management of symptoms of premenstrual syndrome and menopause. Meditation, relaxation techniques, and guided imagery were used for stress, pain, mental illness/depression, general health maintenance, and symptoms of premenstrual syndrome. Hypnosis and self-hypnosis were used for pain, stress, mental illness/depression, smoking cessation, weight management, and sleep problems. Biofeedback was used for pain, hypertension, and temporomandibular joint disorder.

In response to the CAM survey, supplemental information was provided by 329 (83%) of the members about experience with chiropractic care for musculoskeletal pain; by 133 (89%) of members who had used acupuncture for musculoskeletal pain, arthritis pain, or other pain (except headache); and by 181 (71%) of members who had used herbal or homeopathic remedies for any reason. Of the 181 members using herbal or homeopathic remedies, 110 (61%) had used herbal medicines exclusively, 27 (15%) had used homeopathic remedies exclusively, and 44 (24%) had used both herbal and homeopathic remedies.

Most members who reported use of these CAM therapies said that they had done so on the recommendation of a friend or relative (63.7% of chiro-

Table 4. Estimated use of selected alternative treatment methods by adult HMO members ever and in past 12 months[a]

Alternative Method used	Ages 20 to 64			Ages 65 and older			Ages 20 and over		
	Female (n=7018) (%)	Male (n=5352) (%)	All (n=12,370) (%)	Female (n=2647) (%)	Male (n=2718) (%)	All (n=5365) (%)	Female (n=9665) (%)	Male (n=8070) (%)	All (n=17,735) (%)
Manipulation therapies:									
Chiropractic:									
Used in past year	9.6	8.3	9.0	6.7	4.6	5.8	9.1	7.8	8.5
Ever used	24.2	24.2	24.2	18.5	19.8	19.1	23.3	23.6	23.4
Osteopathy:									
Used in past year	0.2	0.1	0.2	0.2	0.4	0.3	0.2	0.2	0.2
Ever used	1.0	0.6	0.8	1.7	1.7	1.7	1.1	0.8	1.0
Acupuncture:									
Used in past year	2.8	1.5	2.2	1.8	1.0	1.4	2.6	1.4	2.1
Ever used	8.5	5.1	6.8	7.9	5.9	7.0	8.4	5.2	6.9
Acupressure:									
Used in past year	2.0	0.9	1.5	0.8	0.4	0.6	1.8	0.9	1.4
Ever used	4.2	2.4	3.3	2.2	1.2	1.7	3.9	2.2	3.1
Massage therapy:									
Used in past year	10.2	6.1	8.2	3.5	2.6	3.1	9.2	5.6	7.5
Ever used	17.6	12.5	15.1	7.5	7.0	7.3	16.0	11.7	13.9
Body work:									
Used in past year	2.0	1.7	1.8	0.5	0.9	0.7	1.7	1.6	1.6
Ever used	3.5	2.8	3.2	0.9	1.5	1.2	3.1	2.6	2.9
Ingested substances/diet:									
Herbal remedies:									
Used in past year	5.2	2.7	4.0	1.2	1.2	1.2	4.6	2.5	3.6
Ever used	10.0	6.3	8.2	3.8	3.1	3.5	9.0	5.8	7.5
Homeopathic medicine:									
Used in past year	3.3	2.0	2.7	1.0	0.5	0.8	3.0	1.7	2.4
Ever used	5.6	3.2	4.4	2.0	0.9	1.5	5.0	2.8	4.0
Megadoses of vitamins:									
Used in past year	2.5	2.3	2.4	1.7	2.0	1.9	2.4	2.2	2.3
Ever used	3.5	3.2	3.4	2.5	2.7	2.6	3.4	3.1	3.2
Special diet:									
Used in past year	1.2	0.8	1.0	0.5	0.5	0.5	1.1	0.8	1.0
Ever used	2.1	1.5	1.8	1.2	0.9	1.1	2.0	1.4	1.7

Table 4. (Cont.)									
Mind/body therapies:									
Meditation/mindfulness:									
Used in past year	5.8	3.3	4.6	1.9	1.3	1.6	5.2	3.0	4.2
Ever used	9.0	5.3	7.2	3.6	2.2	3.0	8.1	4.8	6.6
Relaxation techniques:									
Used in past year	11.4	5.4	8.5	3.6	2.1	2.9	10.2	4.9	7.7
Ever used	16.9	8.7	13.0	6.4	3.1	4.9	15.3	7.9	11.8
Guided imagery/visualization:									
Used in past year	4.0	1.3	2.7	1.4	0.8	1.1	3.6	1.2	2.5
Ever used	7.1	2.5	4.9	2.6	1.1	1.9	6.4	2.3	4.5
Biofeedback:									
Used in past year	0.4	0.3	0.4	0.3	0.2	0.3	0.4	0.3	0.4
Ever used	2.2	1.0	1.6	0.8	0.6	0.7	2.0	0.9	1.5
Hypnosis/self-hypnosis:									
Used in past year	1.8	0.5	1.2	0.6	0.5	0.5	1.6	0.5	1.1
Ever used	4.6	1.8	3.3	2.2	1.2	1.7	4.2	1.7	3.1
Movement therapies:									
Yoga:									
Used in past year	3.1	1.0	2.1	1.2	0.5	0.9	2.8	0.9	1.9
Ever used	5.9	2.2	4.1	2.9	1.1	2.1	5.5	2.0	3.8
Tai chi or chi gong:									
Used in past year	1.4	1.1	1.3	1.9	0.7	1.3	1.5	1.0	1.3
Ever used	2.8	2.2	2.5	3.7	1.6	2.7	3.0	2.1	2.6
Supportive therapies:									
Psychological counseling:									
Used in past year	8.0	3.8	6.0	1.7	1.0	1.4	7.0	3.4	5.3
Ever used	15.9	8.1	12.1	4.6	2.5	3.7	14.1	7.3	10.9
Religious healing or prayer:									
Used in past year	9.5	4.9	7.3	6.1	3.4	4.8	9.0	4.7	6.9
Ever used	12.9	6.8	10.0	9.2	4.9	7.2	12.2	6.5	9.5
Support group or 12-step program:									
Used in past year	3.2	2.2	2.7	1.2	0.9	1.1	2.9	2.0	2.5
Ever used	6.7	4.4	5.6	2.5	1.8	2.2	6.0	4.0	5.1

[a] Estimates based on data from 17,735 respondents to a 1996 member health survey, weighted to the age-gender distribution of the adult Health Plan membership

Table 5. Alternative therapies HMO members would like to have covered by the Health Plan[a]

	Age			Gender		Had used/considered use of this therapy in past	
	All (n=1516) %	20 to 64 (n=1063) %	65 (n=453) %	Women (n=835) %	Men (n=681) %	Yes n[b] %	No n[b] %
Chiropractic	61.1	64.4	42.4	60.5	61.7	83.2	37.8
Acupuncture	41.4	43.8	27.5	40.0	40.0	78.2	28.1
Acupressure	33.6	36.4	17.7	36.7	30.2	76.9	22.5
Massage therapy	50.2	53.3	32.8	54.9	44.9	77.4	34.3
Herbal medicines	30.7	32.8	18.3	34.7	26.2	70.1	19.6
Homeopathic medicine	17.2	18.3	10.9	20.6	13.4	60.8	10.6
Meditation/ mindfulness	23.9	26.3	10.3	26.1	21.5	62.0	13.3
Relaxation techniques	36.3	39.1	20.2	40.6	31.5	67.1	25.3
Biofeedback	17.6	18.6	11.7	20.1	14.8	49.1	14.2
Hypnosis/self-hypnosis	22.3	23.9	12.9	24.2	20.1	67.6	14.6
Yoga/tai chi	21.4	22.6	14.5	24.8	17.6	62.5	14.9

[a] Estimates based on data from 1,516 respondents to the member survey about alternative therapy use, weighted to the age-sex distribution of the adult Health Plan membership. The n at the top of each column reflects the actual number of respondents who provided data.
[b] The n on which the last 2 columns are based are different for each therapy and can be obtained from the lead author.

practic users, 60% of acupuncture users, and 61% of herbal or homeopathic medicine users); fewer users reported that they had been referred to the therapy by a Permanente clinician (10% of chiropractic users, 22% of acupuncture users, and 3% of herbal or homeopathic medicine users). Whereas 36% of herbal or homeopathic medicine users reported that use of these remedies was prescribed and supervised by a traditional or alternative health care professional, 53% of users said that they had used these remedies without any supervision. Fewer than half (25% of chiropractic users, 35% of acupuncture users, and 21% of herbal or homeopathic medicine users) had spoken with their regular Permanente clinician about using these CAM treatments.

Whereas more than 90% of chiropractic and acupuncture users used these therapies to treat acute symptoms, 46% of chiropractic users and 29% of acupuncture users also used the therapy for treating chronic symptoms or for preventing symptom recurrence. Nearly half (46%) of chiropractic users reported using this method instead of regular treatment, 24% used chiropractic along with regular treatment, and 27% used chiropractic only when usual

treatment did not work. More than one fourth (27%) of acupuncture users used this method instead of regular treatment, 24% used it along with regular treatment, and 27% only when usual treatment did not work. Among users of herbal or homeopathic medicine, 46% reported using these remedies instead of regular types of medicine, and one third used herbal or homeopathic medicine along with regular treatment. Substantial percentages (41% of chiropractic users, 55% of acupuncture users, and 36% of herbal/homeopathic medicine users) turned to the method because they believed that their usual treatment was not sufficiently helpful. Most users of chiropractic (70%) and acupuncture (53%) believed that these methods were at least moderately helpful for treating their health condition. Users of herbal or homeopathic medicines were not asked to evaluate effectiveness of these remedies because they were used for a variety of reasons.

Members' Interest in Having Health Care Coverage Include CAM Therapies

Approximately three fourths (73%) of young and middle-aged members and half (51%) of those aged 65 years and older wanted Permanente health care professionals to incorporate CAM techniques into members' medical care. This interest was expressed by more women (75%) than men (65%). Asked to indicate which CAM therapies they would like the Health Plan to provide as a covered benefit, members most frequently expressed the desire for chiropractic, massage therapy, acupuncture, relaxation techniques, and acupressure (Table 5). Of the CAM therapies listed, only homeopathic medicine and biofeedback were not desired by at least 20% of adult members. Consistent with their lower general level of interest in CAM therapies, members aged 65 years and older were less likely than younger and middle-aged adults to want the Health Plan to cover any CAM methods. In addition, members who had used CAM therapies in the past were more likely than nonusers to want future coverage for CAM therapies.

Discussion

The results of the clinician survey suggest that APC physicians and ob/gyn clinicians in the Kaiser Permanente Northern California Region are interested not only in recommending CAM therapies but in expanding Health Plan coverage to include some CAM therapies so that clinicians can more easily incorporate them into patient care. In this survey, 90% of APC clinicians indicated that they had recommended use of at least one listed CAM therapy in the previous 12 months, and the desire for coverage of CAM was expressed by two thirds of APC physicians and three fourths of the ob/gyn clinicians. Clinicians' interest in CAM therapies was motivated mainly by their belief that not all patients can be effectively treated with conventional Western medicine and that at least for some problems, a more holistic (ie, mind-body) approach to treatment might yield better results than conventional approaches. Although most clinicians de-emphasized patients' demand for CAM and concern that the Health Plan might need to offer CAM to stay competitive, we found a statistically significant association ($r = .35$, $p < .0001$) between clinicians' interest in use of CAM and the reported frequency with which their patients mentioned using it.

Results of the member survey confirmed clinicians' perception that most members want to incorporate CAM into their health care in general and that a substantial percentage of members have used CAM (especially chiropractic, massage, and relaxation techniques). Nearly 70% of younger and middle-aged adults and approximately half of members aged 65 years and older would like Permanente clinicians to recommend alternative methods alone or in combination with more usual treatment methods.

Our estimate that approximately one third of adult Health Plan members used at least one of 20 listed CAM therapies in the previous 12 months (ie, during 1995, 1996, or both) is comparable to estimates of CAM use among the adult US population as reported by Eisenberg et al for 1990, but lower than their estimate (42%) for 1997.[9] The lower rate of use we found among our adult membership may be a result of difference in the types of alternative therapy studied: Eisenberg et al[1,9] survey included use of commercial diets, folk remedies, energy healing, and spiritual healing by others. The lower rate may also be related to differences in sociodemographic characteristics of the patient groups surveyed as well as difference in regional usage patterns for specific types of treatment (Eisenberg et al[1,9] conducted a national survey). In comparing use of specific CAM therapies used in the past 12 months, we found that our estimates for adult Health Plan members were significantly lower ($p < .001$) than estimates for the US adult population in use of herbal medicines (3.6% for Health Plan members vs 12.1% for all US adults), relaxation techniques (7.7% for Health Plan members vs 16.3% for all US

adults), imagery (2.5% for Health Plan members vs 4.5% for all US adults), massage (7.5% for Health Plan members vs 11.1% for US adults), megavitamins (2.3% for Health Plan members vs 5.5% for all US adults), and self-help groups (2.5% of Health Plan members vs 4.8% for all US adults).

Given that past behavior is one of the best predictors of future behavior, our estimate that nearly half our adult Health Plan members had ever used CAM suggests that the potential demand for CAM may be much higher if financial barriers were reduced, especially as Health Plan members age. In our expanded study of four alternative types of therapy, we found that most users had been recommended to the therapy by people other than medical professionals and had turned to these types of therapy because they were dissatisfied with the results of conventional treatment for their health problem.

" ... unsupervised use of herbal and homeopathic medicine alone or in combination with Western medicine may cause toxicity or adverse drug interactions."

The main concerns expressed generally by clinicians about why the Health Plan should not cover CAM therapies were that these therapies are merely a fad and that they had not been scientifically proved effective. Increased cost to the Health Plan was expressed as a concern by relatively few clinicians; however, this issue may be more important to clinicians in 1999 than in 1996, when the survey was conducted. When asked about their reluctance to refer patients for specific CAM therapies, however, many clinicians explained that they lacked familiarity with these methods, were concerned about whether the methods were effective, and did not want to recommend a treatment that their patients would need to pay for themselves. These responses suggest that clinicians would probably recommend CAM therapies more frequently if credible scientific evidence supported their effectiveness and safety, if information about their use could be summarized and disseminated to clinicians as part of their continuing medical education programs, and if these types of therapy were included in Health Plan coverage.

Because Health Plan members and clinicians showed the greatest interest in Health Plan coverage for specific manipulative therapies (ie, chiropractic, acupuncture, acupressure, and massage therapy) and mind-body therapy (ie, relaxation training, mindfulness-meditation, biofeedback, and hypnosis/self-hypnosis), these types of therapy would be expected to show the greatest initial increase in demand if they were made more accessible. Moreover, although lower percentages of clinicians and members expressed the desire for coverage of herbal medicine, this survey was done before evidence appeared supporting effectiveness of herbal remedies for depression (St. John's wort),[10] enlarged prostate (saw palmetto),[11] depleted immune system (echinacea),[12] loss of mental acuity and mild Alzheimer's disease (ginkgo biloba),[13,14] and osteoarthritis (glucosamine sulfate).[15] Moreover, this evidence appeared not only in the lay media but in mainstream professional journals read by primary care providers: For example, the November 1998 issues of *JAMA* and several associated AMA journals contain many articles and letters about CAM therapies, and *The Permanente Journal* published an excellent review article by Tuso about herbal medicine.[16] In addition, many herbal remedies are now widely available as over-the-counter products in traditional pharmacies and drugstores instead of only in health food stores.

Responses from both our surveys suggest, as did Eisenberg et al in their 1991[1] and 1997 surveys,[9] that insufficient communication about CAM is exchanged between clinicians and their patients. At present, most members do not talk with their primary care clinician before deciding to use CAM, and most clinicians taking a medical history do not routinely ask patients about their use of CAM. In many instances, this questioning is probably not critical; for example, for patients under stress who are exploring the use of relaxation or meditation techniques. However, in some instances where patients use CAM to treat symptoms before seeking professional diagnosis, health problems could worsen. For example, unsupervised use of herbal and homeopathic medicine alone or in combination with Western medicine may cause toxicity or adverse drug interactions.[16,17]

Timing of patient and clinician interventions will be important for improving communication about use of CAM. To avoid adverse health consequences and unnecessary treatment costs, all patients should be encouraged to communicate with their clinician about use of CAM therapies. However, problems may arise if this communication occurs before clinicians improve their knowledge about these therapies. Given that members and clinicians are highly interested in incorporating CAM into their medical care, a clinician education program about CAM should be implemented soon. Such a program should be designed to ensure that clinicians

are conversant about CAM therapies that members are likely to mention in discussing common medical conditions. However, because clinicians cannot be reasonably expected to develop expertise in all these types of therapy, an information system also should be developed for consultation by clinicians to obtain more detailed information about efficacy of CAM therapies, their potential side effects, and whether the therapy is available through the Health Plan.

Patients are increasingly seeing clinicians for chronic health problems (eg, stress-related disorders, pain, fatigue, symptoms of premenstrual syndrome and menopause, and osteoarthritis) often not totally resolved by conventional Western medicines and treatments; at the same time, some patients express concern about the iatrogenic effects of long-term use of conventional pharmaceutical agents. In addition, health care professionals and the public will probably become increasingly interested in CAM therapies as more information about these therapies appears in professional medical journals, lay media, Internet sources, and disease-specific information networks. The results of this study suggest which CAM therapies will probably be in greatest demand by both patients and clinicians. These should probably be given highest priority for research into effectiveness, most appropriate use, and potential cost of their incorporation into a traditional health care delivery system.

During the past several months, a KPNC advisory group on CAM has been meeting under the leadership of Harley Goldberg, MD, Regional Coordinator for Complementary and Alternative Medicine at The Permanente Medical Group (TPMG).* This group and other multidisciplinary working groups examining particular CAM topics have been reviewing the evidence for effectiveness of CAM therapy such as acupuncture, chiropractic, selected herbal medicines, and mind-body medicine approaches. On the basis of sound scientific evidence, the CAM group will make recommendations to clinicians, Health Plan members, and TPMG and Health Plan management about CAM therapies that may present viable treatment options for certain health problems. A CAM research working group is also convening both to identify high-priority CAM research, and help coordinate CAM research in KPNC. ❖

References
1. Eisenberg DM, Davis RB, Ettner S, Appel S, Wilkey S, Van Rompay M, et al. Trends in alternative medicine use in the United States, 1990-1997: results of a follow-up national survey. JAMA 1998;280:1569-75.
2. Berman BM, Singh BB, Hartnoll SM, Singh BK, Reilly D. Primary care physicians and complementary-alternative medicine: training, attitudes, and practice patterns. J Am Board Fam Pract 1998;11:272-81.
3. Borkan J, Neher JO, Anson O, Smoker B. Referrals for alternative therapies. J Fam Pract 1994;39:545-50.
4. Berman BM, Singh BK, Lao L, Singh BB, Ferentz KS, Hartnoll SM. Physicians' attitudes toward complementary or alternative medicine: a regional survey. J Am Board Fam Pract 1995;8:361-6.
5. Cherkin D, MacCornack FA, Berg AO. Family physicians' views of chiropractors: hostile or hospitable? Am J Public Health 1989;79:636-7.
6. Moore NG. A review of reimbursement policies for alternative and complementary therapies. Altern Ther Health Med 1997;3:26-9.
7. Gordon NP, Sobel DS, Tarazona EZ. Use of and interest in alternative therapies among adult primary care clinicians and adult members in a large health maintenance organization. West J Med 1998;169:153-61.
8. Dillman D. Mail and telephone surveys: the total design method. New York: Wiley, 1978.
9. Eisenberg DM, Kessler RC, Foster C, Norlock FE, Calkins DR, Delbanco TL. Unconventional medicine in the United States: prevalence, costs, and patterns of use. N Engl J Med 1993;328:246-52.
10. Miller AL. St. John's Wort (Hypericum perforatum): clinical effects on depression and other conditions. Altern Med Rev 1998;3:18-26.
11. Wilt TJ, Ishani A, Stark G, MacDonald R, Lau J, Mulrow C. Saw palmetto extracts for treatment of benign prostatic hyperplasia: a systematic review. JAMA 1998;280:1604-9.
12. Webb G. Echinacea clinical studies reviewed. HerbalGram 1995;37:17.
13. Le Bars PL, Katz MM, Berman N, Itil TM, Freedman AM, Schatzberg AT. A placebo-controlled, double blind, randomized trial of an extract of Ginkgo biloba for dementia. North Am EGb Study Group. JAMA 1997;278:1327-32.
14. Gaby AR. Ginkgo biloba extract: a review. Altern Med Rev 1996;1:236-41.
15. Pujalte JM, Llavore EP, Ylescupidez FR. Double-blind clinical evaluation of oral glucosamine sulphate in the basic treatment of osteoarthritis. Curr Med Res Opin 1980;7:110-4.
16. Tuso PJ. The herbal medicine pharmacy: what Kaiser Permanente providers need to know. Permanente J 1999 Winter;3(1):33-7.
17. Eisenberg DM. Advising patients who seek alternative medical therapies. Ann Intern Med 1997;127:61-9.

*Dr. Goldberg can be reached by e-mail at Harley.Goldberg@kp.org, by phone (510) 987-2028, or by mail at Kaiser Permanente Regional Offices, 1950 Franklin St., Oakland, CA 94612.

Acknowledgments: This research was supported by funds from the Innovation Program and the Community Services Program of Kaiser Permanente's Northern California Region. The authors wish to thank the publishers of The Western Journal of Medicine *for granting us permission to reproduce selected text and tables from an original research article by the authors which appeared in the September 1998 issue.*