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# Complementary and Alternative Medicine Use among Health Plan Members

## A Cross-Sectional Survey

**CONTEXT.** Many health plans have started to cover the cost of complementary and alternative medicine (CAM). National survey data indicate that CAM use is highly prevalent among adults. However, little is known about CAM use among health plan members.

**OBJECTIVE.** To describe CAM users, the prevalence of CAM use, and how CAM use relates to utilization of conventional preventive services and health care satisfaction among health plan members.

**DESIGN.** Cross-sectional mail survey in 1997.

**SETTING.** Managed care organization in Minnesota.

**SAMPLE.** Random sample of health plan members aged 40 and older stratified by number of chronic diseases; 4404 (86%) of the 5107 returned completed questionnaires.

**MEASURES.** Use of CAM, patient characteristics (e.g., chronic diseases, health status), health behaviors (e.g., smoking, diet, exercise), and interaction with conventional health care (e.g., use of preventive services, having a primary care doctor, health care satisfaction).

**RESULTS.** Overall, 42% reported the use of at least one CAM therapy; the most common were relaxation techniques (18%), massage (12%), herbal medicine (10%), and megavitamin therapy (9%). Perceived efficacy of CAM ranged from 76% (hypnosis) to 98% (energy healing). CAM users tended to be female, younger, better educated, and employed. Users of CAM reported more physical and emotional limitations, more pain, and more dysthymia but were not more likely to have a chronic condition. CAM users were slightly more likely to have a primary care provider (86% vs. 82% had chosen a primary care provider;  $P = 0.014$ ) and had more favorable health-related behaviors. CAM users and nonusers were equally likely to use conventional preventive services and were equally satisfied with their health plan.

**CONCLUSION.** CAM use is highly prevalent among health plan members. CAM users report more physical and emotional limitations than do nonusers. CAM does not seem to be a substitute for conventional preventive health care.

According to survey data, use of complementary and alternative medicine (CAM) in the United States is common and growing: CAM use rose from 34% to 42% between 1993 and 1998.<sup>1,2</sup> In 1998, 425 million visits were made to providers

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of unconventional therapy at a total cost of \$13.7 billion,<sup>2</sup> costs that are increasingly being borne by health plans as they begin to cover CAM services.<sup>3,4</sup> Given the prevalence of CAM use and its potential interaction with conventional therapies, medical care providers have an interest in understanding how and why patients seek CAM.

Little is known about CAM use among health plan members. In 1997, HealthPartners, a not-for-profit managed care organization (MCO) in Minnesota, initiated a blended approach to alternative medicine at two clinics as a pilot to better meet members' needs and interests. We conducted this study to assess the prevalence of CAM use, to describe who uses CAM, and to determine how CAM use relates to the use of conventional health care (preventive service utilization and satisfaction with care).

## Methods

### Study Sample

The study was conducted at HealthPartners, a large mixed-model MCO that had approximately 650,000 members in 1997. Study participants were drawn from a stratified sample of the group's members who were 40 years of age and older; the study sample included 3000 members with no chronic conditions, 2500 members with one chronic condition, and 2500 members with two to four chronic conditions. Chronic conditions used to stratify the population included diabetes, hypertension, dyslipidemia, and heart disease; the conditions were identified by using ICD-9-CM codes and other data.<sup>5</sup> We mailed surveys to 5107 members who had responded to previous surveys and received 4404 responses (86% response rate) for the survey reported herein. We telephoned respondents who did not return the survey after two mailings.

### Survey Measures

To assess CAM use, we asked, "During the last 12 months have you used any of these therapies for your health?" Seventeen therapies, similar to those reported by Eisenberg and colleagues<sup>1</sup> in 1993, were listed as response options. Although we queried the recipients about use of prayer, we excluded prayer as a CAM method. No examples or definitions for each type of therapy were given; therefore, each respondent arrived at his or her selection independently. Perceived efficacy of CAM was assessed by using the question, "Does/did it help?"

To describe the characteristics of CAM users, we also asked about demographics (gender, age, education, employment, and marital status), health status (self-

reported measures of physical limitations, emotional limitations, chronic pain, depression, and perception of improved health since last year), health behaviors (exercise, vegetable and fruit intake, fast-food intake, choice of low-fat foods when eating out, alcohol consumption, smoking, and seatbelt use), use of conventional preventive health services (having a primary care provider, flu shot within the past year, mammogram within the past year; preventive use of aspirin; and postmenopausal use of estrogen and calcium for prevention of osteoporosis), and satisfaction with the conventional health system.

## Analysis

To account for the stratified sampling according to chronic conditions, we weighted all estimates so that they represented the entire adult population of the health plan. The relationship between CAM use and health status, use of conventional preventive services, and member satisfaction with the health plan was first assessed using the Chi-square test. All data were analyzed after adjustment for sample stratification using the formula described in Kahn and Sempos.<sup>6</sup> In determining the association between CAM use and conventional preventive services, we used multivariate logistic regression models to adjust for the following potential confounders: demographics, health status, physical limitations, dysthymia, marital status, and employment status. In each case, a full model was fitted and then variables not found to be significant were removed to obtain the final adjusted odds ratios. The final model consisted of gender, age, education, improved health status over the past year, emotional limitations, and having pain. The effect of stratified sampling is taken into account by using appropriate sampling weights. In Statistical Analysis Software, version 6 (SAS Institute, Cary, NC), this is accomplished by using the option of WEIGHT in the procedure of PROC LOGISTIC. Finally, the method of Zhang and Yu<sup>7</sup> was used to approximate the relative risk from the odds ratio obtained from the logistic regression.

## Results

### Prevalence of CAM Use

**Table 1** shows that the overall rate of use for at least one of the 16 CAM therapies (excluding prayer) for the study population was 42%. The most commonly used alternative therapies were relaxation techniques (18%), massage (12%), and herbal medicine (10%). Among members using CAM, the mean number of therapies used was 1.9. Most CAM users thought their therapy "helped"; the percentage of satisfied users ranged from 76% for hypnosis to 98% for energy healing.

TABLE 1

**Prevalence of CAM Use by Health Plan Members and Its Perceived Effectiveness\***

ALTERNATIVE THERAPY	"DURING THE PAST 12 MONTHS, HAVE YOU USED ANY OF THESE THERAPIES FOR YOUR HEALTH?" (% YES)	"DOES/DID IT HELP?" (% YES)
Relaxation technique	18%	93%
Massage	12%	93%
Herbal medicine	10%	80%
Megavitamin therapy	9%	79%
Spiritual healing	8%	94%
Chiropractic adjustment	8%	89%
Imagery	5%	92%
Self-help groups	4%	91%
Lifestyle diets	3%	88%
Commercial weight-loss programs	3%	90%
Homeopathy	2%	84%
Folk remedies	2%	83%
Acupuncture	1%	90%
Energy healing	1%	98%
Biofeedback	1%	97%
Hypnosis	1%	76%
Prayer	52%	89%
<b>At least one therapy (excluding prayer)</b>	<b>42%</b>	

\*Responses from the 4404 respondents are weighted to reflect the entire adult population of the health plan.

### Who Uses CAM?

Table 2 presents CAM use by demographic and health-related factors. CAM use was higher among female (46% female vs. 38% male), younger (<55 years), more highly educated (college graduate or more), single, and employed health plan members. While those with chronic conditions were no more likely to report CAM use, patients with limitations in each of the health status measures were more likely to report CAM use. In addition, those who perceived improvement in their general health status over the past year were more likely to have used CAM than those who did not feel their health had improved (50% vs. 41%).

### Health-Related Behaviors

With respect to health-related behaviors, patients who reported higher use of CAM also reported more regular exercise (46% of regular exercisers vs. 40% of nonregular exercisers reported CAM use), higher vegetable intake (45% vs. 40%), lower dietary fat intake (48% vs. 39%), and lower alcohol intake (43% vs. 35%) but ate more fast food (47% vs. 41%). Nonsmoking history, receipt of dental care, and use of seatbelts did not relate to CAM use.

### Use of Conventional Preventive Services

Table 3 presents the association between use of CAM and utilization of various conventional preventive ser-

vices. A significantly higher proportion of CAM users had chosen a primary care physician (86% vs. 82%), used supplemental calcium (63% vs. 52%), had a recent check-up (63% vs. 60%), and had a recent mammogram (67% vs. 62%). In all cases, the adjusted relative risk ratios were small (never more than 1.06). CAM users were not more likely to get flu shots, use aspirin to prevent heart disease, or use estrogen.

### Satisfaction with the Health Plan

CAM users did not differ from nonusers with respect to satisfaction with the health plan. The satisfaction measures included satisfaction with health plan support of members' efforts to improve their health status (42% of users vs. 43% nonusers responded "excellent" or "very good") and provision of information about staying well and avoiding illness (41% users vs. 42% nonusers users responded "excellent" or "very good"). CAM users were slightly more likely to want "a lot" more active involvement in their own health care decisions (46% vs. 39%;  $P = 0.002$ ).

### Discussion

This study indicates that use of CAM among health plan members mirrored that of a national sample, both in terms of prevalence and types of therapies used.<sup>1,2,4</sup> Our data provide solid evidence that persons likely to use

TABLE 2

## Characteristics of Health Plan Members According to CAM Use\*

CHARACTERISTIC OR CONDITION	PERCENTAGE REPORTING CAM USE	P VALUE
<b>Demographics</b>		
Gender		<0.001
Female	46%	
Male	38%	
Age, yr		<0.001
<55	49%	
55–64	40%	
65+	32%	
Education		<0.001
High school graduate or less	35%	
Some college	45%	
College graduate or higher	46%	
Employment status		<0.001
Unemployed	35%	
Employed	46%	
Marital status		0.026
Never been married, divorced, or separated	49%	
Married/widowed	42%	
<b>Health status</b>		
Diagnosed chronic conditions		>0.2
None	43%	
One	40%	
Two or more	40%	
During the past 30 days...		
How many days was your physical health not good? (includes physical illness or injury)		<0.001
None	40%	
>5 days	53%	
How many days was your mental health not good? (includes stress, depression, and emotional problems)		<0.001
None	39%	
>5 days	57%	
How many days did pain make it hard for you to do your usual activities, such as self-care, work, or recreation?		<0.001
None	40%	
>5 days	57%	
Do you often feel sad or depressed?		0.020
No	42%	
Yes	49%	
Compared with 1 year ago, how would you rate your health in general now?		<0.001
Much worse or somewhat worse	41%	
Much better or somewhat better	50%	
<b>Health-related behaviors</b>		
In the past week, have you had a total of 30 minutes or more of physical activity?		0.008
No	40%	
Yes	46%	
Do you eat at least five servings of vegetables every day?		0.011
No	40%	
Always or most of the time	45%	
In the past week, how many times have you eaten fast food or eaten in a restaurant?		0.020
None	41%	
Yes	47%	
How often do you make a low-fat choice when eating away from home?		<0.001
Never	39%	
Always or most of the time	48%	
How many times during the past year did you have five or more drinks on one occasion?		0.011
None	43%	
One or more times	35%	
Have you smoked at least 100 cigarettes in your entire life?		>0.2
No	42%	
Yes	42%	
How often do you wear a seatbelt when driving or riding in a car?		0.154
Never	39%	
Always	43%	

\*Responses from the 4404 respondents are weighted to reflect the entire adult population of the health plan.

**TABLE 3**

**Relationship between CAM Use and Use of Conventional and Preventive Services**

CHARACTERISTIC	TOTAL RESPONDENTS	CAM USERS (n = 1807)*	NON-CAM USERS (n = 2597)*	ADJUSTED RR (95% CI)†
				Fewer Preventive Services 0.8    0.9    1.0    1.1    1.2 More Preventive Services
Primary care provider chosen	4255	86%	82%	1.05 [1.02, 1.08]
Regular check-up within past year	4257	63%	60%	1.02 [1.00, 1.04]
Flu shot within past year	4172	52%	54%	0.98 [0.96, 1.00]
Mammogram within past year	1999	67%	62%	1.05 [1.02, 1.08]
Aspirin use—3 or more times a week for prevention of heart disease	4323	31%	33%	1.01 [0.99, 1.03]
Estrogen use—has taken hormone replacement therapy (women only)	1106	72%	70%	1.01 [0.99, 1.03]
Calcium use—has taken supplement (women only)	2045	63%	52%	1.05 [1.02, 1.08]
				0.8    0.9    1.0    1.1    1.2 Fewer Preventive Services    More Preventive Services

\*The percentages are weighted to reflect the entire adult population of the health plan and are based on the numbers shown.

†Adjusted for gender, age, education, impaired health status over the past year, emotional limitations, and having pain.

CAM were also likely to utilize traditional care. In fact, in our health plan, CAM users were slightly more likely to seek traditional preventive care and were as satisfied with the health plan as nonusers. In addition, CAM users were more likely to want to be actively involved in health care decision making.

**CAM User Profile**

CAM use appears to be more prevalent among young women who are educated and employed. Surprisingly, CAM users are not more likely to have chronic medical conditions. They do, however, report more physical and emotional limitations and have more pain, consistent with previous findings.<sup>1,2</sup> These findings are difficult to reconcile. One would expect chronic conditions to be associated with higher levels of physical and emotional limitations and perhaps more pain. It may be speculated that CAM users look for additional ways to address their suboptimum functioning. In doing so, they become actively engaged in their own care but do not appear to substitute CAM for traditional medicine. It could also be true that the traditional medical system adequately addresses the

chronic conditions we selected (diabetes, dyslipidemia, hypertension, and heart disease); however, other chronic conditions (e.g., chronic back pain) are not as easily treated. Patients with the conditions that are more difficult to treat may be the patients who seek CAM.

**Limitations**

Several limitations to our study should be acknowledged. First, self-reported use of preventive services tends to be higher than what is observed through review of medical records. While self-report may affect the magnitude of the rates, it is unlikely to affect the differences between CAM users and nonusers. Next, we measured only conventional preventive care. It is possible that CAM users feel differently about the use of conventional treatments for active disease. Finally, our assessment of the perceived efficacy of therapy is limited to one question.

**Implications for Health Plans and Health Provider**

Our data suggest that CAM utilization may be quite high in some demographic groups. Cost per patient will

increase for health plans that choose to cover CAM alternatives because those who use CAM do not appear to use fewer conventional preventive care services. Health plans can play an important role in providing members with access to evidence-based information regarding the safety and effectiveness of various alternative therapies. While some health plans are moving in this direction, most have not yet considered the potential implications of CAM use on clinical outcomes, patient satisfaction, and cost of care. As attention to patient-centered health care increases,<sup>8,9</sup> CAM will necessarily receive increased attention in the future.

Since CAM users often have selected a primary care provider, have regular check-ups, and desire active engagement in health care decisions, there is an opportunity to provide information about alternative medicine options.<sup>8-12</sup> Such discussions may lead to higher patient satisfaction.<sup>14</sup> Efficacy data on the more common CAM modalities are urgently needed to inform discussions between patients and their health providers.

## Take-Home Points

- Although many managed care organizations are now providing CAM benefits, little is known about health plan member use of CAM.
- We surveyed a random sample of health plan members to learn the prevalence of CAM use, characteristics of CAM users, and how use relates to interactions with the conventional health care system.
- CAM use among health plan members was high (42%) and closely mirrored the level of CAM use observed in the general population. Although CAM users did not report more chronic disorders, they were more likely to perceive physical and emotional limitations in daily life and to experience more pain than nonusers.
- CAM users reported slightly higher rates of conventional preventive health care services. As a result, coverage of CAM by health plans will probably increase the cost of care.
- Since CAM users want to be actively involved in health care decisions, there may be an opportunity for health plans to provide patients with information about the efficacy and safety of these therapies.

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