

Access To Conventional Medical Care And The Use Of Complementary And Alternative Medicine

Do people seek alternative therapies as a way to save money, or because they believe that these therapies reflect their personal approach to health care?

by José A. Pagán and Mark V. Pauly

ABSTRACT: The use of complementary and alternative medicine (CAM) in the United States has greatly increased during the past decade. Using survey data from the 2002 National Health Interview Survey (NHIS), we show that adults who did not get, or delayed, needed medical care because of cost in the prior twelve months were also more likely than all other adults to use CAM. Recent increases in CAM use could be the result of not only the desire for individual empowerment and patient dissatisfaction with conventional medicine, as has been claimed, but also of increases in the relative cost of conventional health care.

THE USE OF COMPLEMENTARY AND ALTERNATIVE MEDICINE (CAM) in the United States has increased dramatically during the past few years.¹ The percentage of adults who reported using at least one CAM therapy during the previous year increased from 33.8 percent in 1990 to 42.1 percent in 1997.² More recent estimates based on the 2002 National Health Interview Survey (NHIS) show that 62.1 percent of U.S. adults used CAM therapies during the previous year.³ The most common CAM modalities include prayer for one's own health, natural products, deep-breathing exercises, meditation, chiropractic care, yoga, massage, and diet-based therapies. Interestingly, the number of visits to practitioners of alternative therapies is now higher than the number of visits to all U.S. primary care physicians.⁴

Several hypotheses have been proposed to explain why CAM use has become so prevalent.⁵ Patient dissatisfaction with conventional treatment may have led to increased CAM use because of the perceived ineffectiveness of modern medicine and

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a lack of trust in the health care system.⁶ It could also be a result of the need for individual empowerment and personal control over health care use.⁷ Finally, it could be high because there is congruence between CAM and the personal beliefs, spirituality, and values of patients.⁸

The increasing use of CAM has taken place at the same time that conventional health care has generally been thought to have improved in effectiveness, while simultaneously becoming much more expensive. From 1988 to 2001, yearly increases in job-based health insurance premiums were higher than increases in both earnings and overall inflation, except during the 1995–1997 period.⁹ Moreover, the percentage of uninsured workers grew from 20 percent in 1988 to 23 percent in 1999. If the per capita cost of health care continues to increase faster than personal income, recent estimates put the percentage of uninsured workers as high as 30 percent in 2009.¹⁰

Cost concerns are particularly relevant for low-income uninsured adults with chronic health conditions that require ongoing health care treatment. The World Health Organization (WHO) recently released guidelines to promote the proper use of CAM and reduce its potential risks.¹¹ Adverse CAM effects could be a source of concern among people in this population because they also would be more likely to delay or postpone health care because of cost or to use CAM without supervision.

Few studies have analyzed why the use of CAM therapies has increased so rapidly in recent years. Some argue that this can be attributed mostly to an increase in the size of the population relying on CAM rather than to increases in the average use of CAM among users of these therapies.¹² The conventional wisdom is that most adults use CAM because these therapies are consistent with their own values and beliefs about health, not because they are dissatisfied with conventional medical care.

Absent from the CAM literature is the view that the increasing use of nonconventional health care can in large part be a reflection of the growing relative cost of conventional therapies compared with the cost of CAM and the consequent lack of access to conventional health care. Using data from the 2002 NHIS, this study analyzes whether CAM use by adults is related to the perceived affordability of medical care.

Study Data And Methods

The NHIS has been described in detail elsewhere.¹³ It contains health, health care, demographic, and socioeconomic data on a nationally representative sample of the U.S. noninstitutionalized population. One adult age eighteen or older was selected at random from each family in the sample to obtain more detailed health and demographic information. The 2002 NHIS Sample Adult Core questionnaire includes an Alternative Health/Complementary and Alternative Medicine Supplement that collected information on the use of seventeen CAM therapies ($n =$

31,044). Respondents were asked whether they had used any of these nonconventional therapies during the past twelve months. After we excluded people with missing data in the variables of interest, our final sample consisted of 29,881 adult respondents.

We wanted to determine whether those who said that they delayed—or did not get—needed medical care because of cost were also more likely to have used CAM therapies during the same year. More specifically, we constructed a “delayed medical care” dichotomous variable by combining the answers to the following two questions: “During the past 12 months, has medical care been delayed for [you] because of worry about the cost?” and “During the past 12 months, was there any time when [you] needed medical care, but did not get it because [you] couldn’t afford it?” If the respondent answered affirmatively to at least one of these questions, the respondent is classified as having delayed or not getting the medical care needed.¹⁴

Although the 2002 NHIS asked respondents whether they had used CAM therapies because they thought that conventional medical treatments were too expensive, we did not use these questions in our analyses precisely because they were asked of CAM users only. We are interested in the differences in perceptions of relative costliness between users and nonusers, and this question cannot be answered from data on users alone.

We used logistic regression to analyze the relationship between such cost-related medical care delays and CAM use. We controlled for whether the respondent had health insurance or not, years of education, age and its square, sex, marital status (married versus otherwise), self-reported health status (reporting fair/poor health versus otherwise), the presence/absence of certain health conditions (hypertension, cancer, high cholesterol, stroke, heart disease, diabetes, and arthritis), ethnicity/race (Hispanic, non-Hispanic white, black, and other), place of birth (U.S. versus abroad) and years residing in the United States, family size, and U.S. region of residence (Northeast, Midwest, South, and West). We also included five categories of family income according to the federal poverty level. All of these variables were included in the logistic regression models based on previous research suggesting that CAM use can vary greatly across these dimensions and population subgroups.¹⁵

Results

Exhibit 1 presents the prevalence of CAM use in the United States and compares the use of CAM between those delaying or not getting, or both, needed medical care because of cost and those not reporting any difficulties in getting needed medical care. We found that 61 percent of respondents reported using at least one of the seventeen different CAM practices. Nonconventional therapies used by at least 5 percent of the U.S. adult population include prayer and spiritual healing, herbal medicine, relaxation techniques, chiropractic care, yoga/tai chi/qi qong,

EXHIBIT 1
Prevalence Of Complementary And Alternative Medicine (CAM) Use In The United States, By Medical Care Need Status, 2002

Therapy	All (%)	Delayed or did not get needed medical care	
		Yes (%)	No (%)
At least one modality	60.88	71.38	59.77***
Prayer and spiritual healing for own health	44.09	52.94	43.15***
Herbal medicine	18.90	26.67	18.08***
Relaxation techniques	14.48	22.80	13.60***
Chiropractic care	7.55	8.76	7.43**
Yoga/tai chi/qi qong	5.81	8.52	5.52***
Massage	4.99	6.90	4.79***
Special diets	3.52	5.89	3.27***
Megavitamins	2.83	4.73	2.63***
Homeopathy	1.68	3.44	1.50***
Acupuncture	1.04	1.80	0.96***
Energy healing therapy/Reiki	0.53	1.52	0.43***
Hypnosis	0.25	0.49	0.23*
Naturopathy	0.24	0.49	0.22**
Biofeedback	0.14	0.36	0.11*
Folk medicine	0.12	0.36	0.09**
Ayurveda	0.08	0.16	0.07
Chelation	0.03	0.04	0.03

SOURCE: Authors' analyses using data from the 2002 National Health Interview Survey.

NOTE: Percentages responding "yes" and "no" were tested for differences for each therapy.

* $p < .10$ ** $p < .05$ *** $p < .01$

and massage therapy.¹⁶

We found large mean differences in CAM use when comparing adults according to their reported ability/inability to obtain medical care because of cost. For users of at least one nonconventional therapy, CAM use was 71.4 percent for those reporting difficulties compared with 59.8 percent for those not reporting any difficulties in getting needed medical care. The differences in CAM use across the two groups are also large and statistically significant at the 1 percent level for ten of seventeen CAM therapies and at the 5 percent level for three others.

Exhibit 2 reports the adjusted odds ratios for the use of CAM between those reporting delaying or not getting, or both, needed medical care and those not reporting any difficulties in getting care, based on logistic regression estimates that control for other influences.¹⁷ We found that those having difficulties obtaining needed medical care were 61 percent more likely to have used at least one CAM therapy during the previous year than those not reporting any difficulties (odds ratio = 1.61). These results are consistent across almost all CAM therapies, and the adjusted odds ratios are particularly high (and statistically significant at the 5 percent level) for special diets, homeopathy, high-dose or megavitamin therapy, acupuncture, energy healing therapy/Reiki, folk medicine, and ayurveda.

EXHIBIT 2
Adjusted Odds Ratios Of Using Complementary And Alternative Medicine (CAM)
Therapies, By Medical Care Need Status, 2002

Therapy	Odds ratio	95 percent confidence interval
At least one CAM therapy	1.61***	(1.44, 1.80)
Prayer and spiritual healing for own health	1.35***	(1.22, 1.50)
Herbal medicine	1.67***	(1.50, 1.86)
Relaxation techniques	1.78***	(1.57, 2.01)
Chiropractic care	1.28***	(1.08, 1.53)
Yoga/tai chi/qi qong	1.83***	(1.52, 2.22)
Massage	1.61***	(1.35, 1.93)
Special diets	1.96***	(1.55, 2.49)
Megavitamins	1.99***	(1.54, 2.58)
Homeopathy	1.97***	(1.46, 2.67)
Acupuncture	2.09***	(1.44, 3.03)
Energy healing therapy/Reiki	3.35***	(2.05, 5.47)
Hypnosis	1.69*	(0.94, 3.02)
Naturopathy	1.39	(0.69, 2.82)
Biofeedback	1.93	(0.75, 4.96)
Folk medicine	2.38**	(1.09, 5.22)
Ayurveda	6.18**	(1.12, 33.99)
Chelation	1.66	(0.23, 11.77)

SOURCE: Authors' analyses using data from the 2002 National Health Interview Survey.

NOTES: The odds ratios compare those who had difficulty in getting needed care with those who did not, based on whether they responded "yes" to using the indicated therapy. See text for further explanation. Odds ratios were tested for differences compared with a value of 1.00.

* $p < .10$ ** $p < .05$ *** $p < .01$

Discussion

In 2002, about three-fifths of U.S. adults had used CAM therapies within the past twelve months. Our results show that there were large and statistically significant differences in the use of CAM therapies between those reporting and those not reporting having difficulties obtaining needed medical care because of cost. These findings are even stronger after we controlled for a set of confounder variables posited to be related to the use of CAM.

The results suggest an additional explanation for the rise of CAM in the United States since the 1990s. We argue that this could in part be a reflection of the growing relative cost of conventional health care. Medical care has become less affordable for many people, and health insurance premiums have been increasing relatively rapidly. Out-of-pocket payments have risen in absolute amounts for those with health insurance. The percentage of uninsured workers has also shown steady growth during the past few years, and it is expected to increase even more if health care costs continue to increase faster than personal income.

Previous research has argued that CAM therapy use is increasingly common in the United States because these nonconventional health care practices are more

“Some recent proposals to improve the affordability of conventional health care would most likely decrease the number of CAM users.”

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consistent with the health-related beliefs and values of many patients. However, it is unclear whether patients' values and beliefs have changed greatly over the past few years. There is also incontrovertible evidence that health care costs have grown faster than incomes and prices.

The findings presented here should be interpreted with care, given that there are other alternative explanations that could not be ruled out because of the lack of data on all aspects of CAM. For example, consumers could have become more aware and more accepting of CAM therapies over time. CAM therapies and products that have been available only in nontraditional outlets can now be found everywhere. Although early adopters of CAM probably were drawn to these therapies because of their health attitudes and beliefs, the increasing availability of CAM has now allowed many adults, holistically inclined or not, to experiment with these therapies and products.

Reductions in the absolute price of CAM therapies could also lead to changes in the relative price between CAM and conventional medicine. If people are more likely to report problems in access when they are sicker (although our health status measures are imperfect), then the greater use of CAM may simply represent greater use of care of all types by those in poorer health.¹⁸

It is also possible that if people use CAM first, then they would be more likely to report that they delayed needed medical care because of cost because they would have less money available for conventional care. We were also not able to control for the effects of several important variables that have been shown previously to be predictive of CAM use (for example, the degree of satisfaction with conventional medicine, health beliefs, philosophical orientation, and the desire to have some control over health decisions).¹⁹ Finally, the term “needed medical care” in the survey instrument is not precisely defined; it presumably refers to conventional medical care (not CAM) and reflects the person's subjective judgment about value or need for that type of care. It is possible that people who say that they “need” conventional medical care also have weaker tastes for CAM, so the bias from this imprecision would go against our main hypothesis.

The observed increases in CAM use associated with the lack of access to medical care suggest that some patients are looking for lower-cost care and not necessarily for equally costly alternatives that better serve their real or perceived needs. For example, many people who do not have access to inexpensive appropriate health care either manage to live without the services as best as they can or resort to self-medication.²⁰ From this point of view, the recent rise in CAM use—such as self-medication—is just another reflection of the rising cost of health care in the United States.

Interestingly, some employers are now promoting the use of CAM in hopes of controlling cost increases related to providing health benefits to workers. This approach—which essentially reflects consumer demand for CAM—can lead to some reductions in total health care spending if CAM substitutes for conventional care, especially given that a substantial share of the health costs faced by employers are related to chronic health conditions.²¹ More specifically, some employers are attempting to reduce cost by implementing financial incentives for the use of preventive medicine and CAM therapies such as naturopathy and acupuncture. There is evidence, however, that users of CAM therapies use more general and preventive health services than those who rely solely on conventional care.²² If this were the case, then costs per patient would probably increase for health insurance plans that decide to cover CAM.

Some recent proposals to improve the affordability of conventional health care via, for example, refundable tax credits or tax deductions for health insurance premiums would most likely decrease the number of CAM users that rely on these therapies based solely on the relatively high cost of conventional health care.²³ Other proposals that involve personal spending accounts and greater consumer responsibility for costs might encourage it (as long as funds from spending accounts can be used for CAM).

From a population health policy perspective, understanding more about these shifts is particularly important because the safety and efficacy of CAM is largely unknown.²⁴ For example, herbal medicines may interact with pharmaceutical drugs in harmful ways, and this may be unknown to both the user and the health care provider, given the limited research on CAM effectiveness up until now. This has potential population health consequences, since patients do not typically tell their providers about their use of CAM, perhaps because many of them think that their physicians would be skeptical of their CAM use. Nonetheless, some adults who cannot afford conventional care end up using CAM therapies that are relatively inexpensive but have been proved to be effective and have fewer side effects than conventional care.²⁵

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NOTES

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16. CAM therapies are defined in the Technical Notes of Barnes et al., "Complementary and Alternative Medicine Use."
17. The full logistic regression estimates are not reported here but are available upon request from the authors. Send e-mail to José Pagán at pagan@wharton.upenn.edu.
18. We also estimated all of the logit CAM models without controlling for health status, and the odds ratios differ on average by less than 4 percent from those reported in Exhibit 2. Thus, the results do not seem to be sensitive to our health status measure, and, as such, they are unlikely to be driven by unmeasured health status. The models were also estimated with an additional binary variable capturing whether the respondent had used physician services within the past year. The odds ratios for the delayed/postponed care variable fell on average by less than 4 percent.
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