A LARGE-SAMPLE SURVEY OF FIRST- AND SECOND-YEAR MEDICAL STUDENT ATTITUDES TOWARD COMPLEMENTARY AND ALTERNATIVE MEDICINE IN THE CURRICULUM AND IN PRACTICE

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Purpose • To assess attitudes toward complementary and alternative medicine (CAM) and its place in the medical school curriculum and medical practice among preclinical students at Georgetown University School of Medicine (GUSOM), Washington, DC.

Method • Two-hundred sixty-six first-year (n=111) and secondyear (n=155) medical students rated their attitudes toward CAM and 15 CAM modalities in terms of personal use, inclusion in the curriculum, and use/utility in clinical practice.

Results • Nearly all (91%) students agreed that "CAM includes ideas and methods from which Western medicine could benefit"; more than 85% agreed that "knowledge about CAM is important to me as a student/future practicing health professional"; and more than 75% felt that CAM should be included in the curriculum. Among all students, the most frequently indicated level of

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n 1993, a national survey suggested that 1 in 3 adults in the United States used at least 1 complementary or alternative therapy.¹ A follow-up national survey found a substantial increase in the use of complementary and alternative medicine (CAM) in the United States (from 34% in 1990 to 42% in 1997), as well as a dramatic rise in the desired training was "sufficient to advise patients about use," for 11 of the 15 modalities. The greatest level of training was wanted for acupuncture, chiropractic, herbal medicine, and nutritional supplements. The descriptions of CAM in future clinical practice that occurred most frequently were endorsement, referral, or provision of acupuncture, biofeedback, chiropractic, herbal medicine, massage, nutritional supplements, prayer, and meditation. **Conclusions** • Interest in and enthusiasm about CAM modalities was high in this sample; personal experience was much less prevalent. Students were in favor of CAM training in the curriculum to the extent that they could provide advice to patients; the largest proportions of the sample planned to endorse, refer patients for, or provide 8 of the 15 modalities surveyed in their future practice. (*Altern Ther Health Med*. 2007;13(1):30-35.)

estimated number of visits and payments to alternative medicine practitioners (from \$427 million in 1990 to \$629 million in 1997).² More recently, the Centers for Disease Control and Prevention's National Center for Health Statistics reported that 36% of 31,044 adults surveyed used some form of CAM (excluding prayer for one's health; 62% including prayer) in the previous 12 months.³ With the public interest in CAM at steady or increasing levels, attention to it within schools of medicine has started to increase. Education about CAM has been found to be associated with more positive attitudes toward CAM;⁴⁸ however, because CAM modalities have tended to fall outside the field of scientific inquiry, integrating elements of CAM into the medical school curriculum poses particular challenges.⁹⁻¹¹ This is especially true for training in CAM practices.

With an educational initiative award from the National Center for Complementary and Alternative Medicine (NCCAM) in 2001, Georgetown University School of Medicine (GUSOM) developed a multifaceted program to integrate CAM knowledge, skills, and attitudes into both the preclinical and clinical medical curriculum. The integration of factual, knowledge-based curricular elements describing CAM modalities has been ongoing at GUSOM since 2001 and generally follows the standard lecture format; that is, lecture-based materials describing CAM methods have been integrated into the curriculum as a didactic approach to developing evidence-based knowledge about CAM modalities such as biofeedback and acupuncture. Experience and training in the administration of CAM modalities—other than mind-body medicine skills—has not been integrated, however.

To determine the level of interest, experience, and enthusiasm regarding CAM practice in medical students during the preclinical years and to determine their attitudes toward CAM with regard to their future clinical practice, we conducted a survey of 266 first- and second-year Georgetown University medical students.

MATERIALS AND METHODS

As part of ongoing efforts to integrate CAM into the curriculum at GUSOM, a paper-and-pencil survey was administered. The survey instrument was adapted from one developed by the University of Minnesota.¹² The survey included more than 142 statements to which respondents provided nominal (and in some cases, ordinal) ratings.* In this study, we focused on general attitudes toward CAM (11 questions), perceived barriers to CAM in Western medical settings (7 questions), and the level of training respondents would like, degree of experience or willingness to consider, or level of inclusion in future clinical practice they intended for each of 15 CAM modalitiesacupuncture; aromatherapy; bioelectromagnetic therapies (eg, magnets, biofeedback, chiropractic, herbal medicine, homeopathy, hypnosis/guided imagery, massage, music, nutritional supplements, prayer/spiritual healing, meditation, Rolfing (structural reintegration); and therapeutic touch (45 questions). All responses were based on a 7-level Likert scale (strongly disagree, disagree, somewhat disagree, neutral, somewhat agree, agree, strongly agree).

The survey was given to first-year medical students attending a biochemistry lecture and second-year students attending a mandatory meeting. Participation in the survey was voluntary and anonymous; on the form, students indicated their year in school, gender, race, religion, and age. The surveys were distributed by a professor and an assistant at the start of the class/meeting; students were given roughly 20 minutes to complete the surveys, which were collected before the start of lecture. The survey instrument and the manner of use were approved by the GUSOM Institutional Review Board Committee.

Statistical Methods

The data were analyzed using SPSS v 11.5 (SPSS Inc, Chicago, Ill). To generate descriptive statistics for the 18 attitudetoward/barriers-to questions, we collapsed the 7-level Likert ratings into "disagree" (strongly disagree, disagree, somewhat disagree), "neutral," and "agree" (somewhat agree, agree, strongly agree). Descriptive statistics (frequency distributions) were used to

*To see the actual survey that was used, visit our website, www. alternative-therapies.com.

assess the level of interest/experience/plans for each of the 15 modalities. In all cases where inference tests were warranted, nonparametric methods were used to compare ordinal responses (eg, level of training desired) and nominal responses (personal use, CAM in future practice) across respondents by year in school or gender (both considered nominal variables). To protect an overall alpha level of 0.05, we corrected for multiple comparisons (eg, 18 general CAM items; 45 modality-specific items) using Holm's modification of the Bonferroni adjustment.¹³

RESULTS

The proportion of the first-year student cohort that responded to this survey was 65% (111/170), with an associated 95% confidence interval of 56.3% to 73.7%. This was significantly less inclusive of the first-year students than the proportion of the second-year students who responded, 91% (155/170) with its associated 95% confidence interval of 87.7% to 95.3%. These are proportions of the class represented and not response rates because first-year students were recruited during an optional lecture in an elective course (total attendance by first-year students unknown), whereas second-year students were recruited at a mandatory meeting for the United States Medical Licensing Examination (USMLE) Step 1 exam. Of the 111 first-year respondents, 44.1% were female (49/111), and 82 of the 155 secondyear students (52%) were female. These values roughly approximate the enrollment of women in the GUSOM.

General Attitudes Toward Complementary and Alternative Medicine

We compared the distribution of agree/neutral/disagree ratings for each of the 18 general CAM and barrier questions from men and women, stratified by year in school (data not shown). We replicated this analysis collapsing across year in school and found that the trends for respondent gender were identical for both cohorts. Because the trends for respondents were identical for each year, we present the response distribution comparisons across gender for the 2 cohorts together in Tables 1 and 2.

Women were consistently more positive than men in their responses (eg, tending to agree with CAM-positive statements such as, "Clinical care should integrate the best of conventional and CAM practices" and to disagree with CAM-negative statements such as, "The results of CAM are in most cases due to a placebo effect").

Both men and women tended to agree with statements about the utility and benefits of CAM. Also, less than 20% of men and women agreed with the statement that CAM is a threat to public health. The values in Table 1 reflect the ratings of student agreement, neutrality, and disagreement with each statement. Thus, 35.4% of men and 51.9% of women disagreed with the statement that CAM results were due to placebo effects; similarly, 29.2% of men and 38.5% of women disagreed with the statement that CAM therapies that are not tested in a scientific manner should be discouraged. Lack of evidence for efficacy in CAM practices was perceived as a barrier to the use of CAM in

TABLE 1 Attitudes Toward CAM by Gender (Collapsed Across Year)										
		Men		Women						
	% Agree	% Neutral	% Disagree	% Agree	% Neutral	% Disagree				
Clinical care should integrate the best of conventional and CAM practices.	80.0	12.3	7.7	94.8	4.4	0.8				
CAM includes ideas and methods from which conventional medicine could benefit.	85.4	9.2	5.4	97.0	1.5	1.5				
While we need to be cautious in our claims, a number of CAM approaches										
hold promise for treatment of symptoms, conditions, and/or diseases.	82.3	11.5	6.2	94.8	3.7	1.5				
The results of CAM are in most cases due to a placebo effect.	30.8	33.8	35.4	18.5	29.6	51.9				
CAM therapies not tested in a scientific manner should be discouraged.	53.1	17.7	29.2	34.1	27.4	38.5				
While a few CAM approaches may have limited health benefits, they have										
no true impact on treatment of symptoms, conditions, and/or diseases.	9.2	16.9	73.9	3.0	7.4	89.6				
CAM is a threat to public health.	8.5	10.0	81.5	3.0	7.4	89.6				
I hope to have some CAM practices available to patients in my practice or										
referral network.	66.2	25.4	8.4	89.6	8.1	2.3				
Health professionals should be able to advise their patients about commonly										
used CAM methods.	83.8	13.1	3.1	88.9	8.1	3.0				
CAM practices should be included in my school's curriculum.	71.5	13.1	15.4	88.1	6.7	5.2				
Knowledge about CAM is important to me as a student/future practicing										
health professional.	81.5	10.0	8.5	94.8	3.7	1.5				

Western medical settings in more than 85% of both men and women (Table 2).

Women were significantly more likely than men to agree that clinical care should integrate conventional and CAM practices, that Western medicine could benefit from CAM ideas and methods, that CAM should be included in the curriculum, that they hope to have or refer patients for CAM practices, and that CAM knowledge is important to them as students and as future health professionals (all adjusted P<.05).

Students' thoughts about barriers to acceptance of CAM modalities are presented in Table 2. Overall, students tended not to have fixed opinions about 6 of these 7 barriers; on average, 19% to 40% were neutral in their perceptions of barriers to the use of CAM in Western settings, compared to less than 10% who were neutral about whether lack of evidence was a barrier.

The 3 most widely perceived barriers were lack of evidence (87.6% agreed), lack of staff training (74.3% agreed) and lack of credentialed providers (71.8% agreed). Minorities or bare majorities also agreed that legal issues (52.5%), lack of appropriate equipment (42%), and CAM being too time-consuming (36.7%) were barriers to the acceptance of CAM in Western medical settings.

Though women tended to be more positive than men overall, any gender-based differences were neither consistent across items nor statistically significant. Therefore, we collapsed over respondent gender, as our purpose was mainly to characterize attitudes toward CAM in the curriculum and future practice.

Figures 1-3 show the levels of training desired for each CAM modality across all students in our sample. The majority of respondents indicated that, within the curriculum, they wanted sufficient knowledge to either advise patients about the use of or to personally provide each CAM modality.

A majority (72% to 85%) of respondents wanted sufficient knowledge to either advise patients about the use of or to personally provide acupuncture, chiropractic, herbal medicine, and nutritional supplements, whereas a minority (35% to 50%) indicated they want enough training to advise patients about or to provide aromatherapy, bioelectromagnetic therapies, hypno-

TABLE 2 Perceived Barriers to Use of CAM in Western Medical Settings by Gender (Collapsed Across Year)								
	Men			Women				
	% Agree	% Neutral	% Disagree	% Agree	% Neutral	% Disagree		
Lack of evidence for practices	85.2	10.2	4.6	90.0	6.9	3.1		
Unavailability of credentialed providers	75.0	21.1	3.9	68.7	20.6	10.7		
Lack of reimbursement	56.3	32.0	11.7	70.1	22.1	7.8		
Too time-consuming	32.0	44.5	23.5	41.2	27.5	31.3		
Institutional concerns about legal issues	48.4	35.7	15.9	56.5	35.1	8.4		
Lack of staff training	65.9	25.4	8.7	82.4	13.0	4.6		
Lack of appropriate equipment	38.9	44.4	16.7	45.0	35.9	19.1		



sis/guided imagery, music, Rolfing, and healing touch.

Figure 4 illustrates the distributions for personal experience with the 15 CAM modalities, including attitudes toward modalities that students had not used but might consider using. Between 51% and 84% had used or would consider the other 14 modalities. Between 40% and 53% of students stated that they



would not consider using healing touch, Rolfing, bioelectric/magnetic therapy, homeopathy, or hypnosis. Fewer than 25% of the cohort reported prior experience (with positive or negative outcome) with 10 of the 15 modalities; conversely, between 40% and 54.6% reported prior experience with massage, music, nutritional supplements, prayer, and meditation.

In spite of perceived barriers to its acceptance, students had firm plans to incorporate CAM into their future medical practices. Figures 5 and 6 show the breakdown of students' specific plans for future use of CAM modalities.

Between 45% and 50% of students would refer their patients for acupuncture, massage, and chiropractic (Figure 5), whereas sentiments about homeopathy, hypnosis/guided imagery, and herbal medicines tended to be more conservative. Importantly, at least 25% of students indicated that they were not sure whether they would recommend several of the CAM modalities (bioelectromagnetic therapies, homeopathy, Rolfing, therapeutic touch; Figure 6), but our survey did not permit us to determine if responses of "wouldn't recommend" reflect a negative opinion or the fact that, in an uninformed state, the respondent would not feel comfortable recommending the modality.

DISCUSSION AND CONCLUSIONS

Our survey results echo those reported in surveys conducted in the United States¹⁴ and internationally^{5,15-19} for medical students^{6-8,20-21} as well as faculty;¹² namely, current medical students are aware that CAM options are being exercised by patients and are interested in the integration of these modalities as formal components of their medical education. The survey we administered focuses on personal use and experience with CAM and



does not include any references to family members' or friends' use of CAM. It is possible that these individuals may provide alternative exposure to or experience with CAM, but because these are by no means consistent or controllable, we focused on personal use and experience. Future surveys might incorporate external sources of experience and exposure.

Students were enthusiastic about learning enough about specific CAM practices to be able to advise patients about, refer patients for, and in some cases, provide several modalities in their future practices. Decisions not to recommend various CAM modalities have already been made by these first- and second-year medical students: 10% or fewer would not recommend acupuncture, massage, nutritional supplements, or prayer, and at least 20% would not recommend aromatherapy, bioelectromagnetic therapies, hypnosis/guided imagery, Rolfing or therapeutic touch. As our survey did not permit discerning if responses of "wouldn't recommend" reflect a negative opinion or the fact that, without more knowledge the respondent would





not feel comfortable recommending a modality, it is difficult to interpret the relative proportions of "wouldn't recommend" and "not sure" responses on many of the modalities. However, between 21% and 37% of respondents were neutral (neither agreed nor disagreed) on questions of whether CAM results are placebo effects and that CAM therapies that are not tested in a scientific manner should be discouraged. High levels of neutrality on these questions in terms of opinion and as seen by student's perceptions of future use can be interpreted as suggesting opportunities to augment the knowledge-based elements of the current CAM curriculum.

Our results generally reflect earlier findings that more positive attitudes toward CAM are associated with education on CAM⁴⁻⁸ in that second-year students at GUSOM have had more class work with CAM and tended to be more positive than the first-year students about advising patients on use and personally providing CAM modalities; however, our results were not significant on this point. Although our results might not be generalizable to other academic cohorts, these survey results suggest high levels of interest in the topics, and reflect a desire for further development of experiential CAM curricular elements across all 4 years of the curriculum in this student population. As noted, responses from significantly fewer students in the first-year cohort were elicited relative to the second-year cohort. The differential in "coverage" (ie, solicitation of opinions representing the class) is likely due to the fact that secondyear students were recruited while attending a mandatory meeting, whereas first-year students were recruited while attending an optional lecture. We do not feel that the differential coverage affects our conclusions regarding enthusiasm and interest in the medical school setting. More particularly, our conclusions that high levels of neutrality in the observed responses suggest opportunities for new curricular emphasis are not affected by differential nonresponse if it was observed (which we could not determine). In future surveys, we plan to encourage uniform (high) coverage of all students in each cohort and also to elicit responses facilitating greater interpretability of neutral attitudes.

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Appendix.: Full survey administered to GUSOM 1st and 2nd year students.

Georgetown University School of Medicine Complementary, Integrative and Alternative Medicine (CAM) Survey of Knowledge and Attitudes of Medical Students

Dear Students : We would be grateful for your responses to this survey of your knowledge, attitudes and practices with regard to what has been called complementary, Integrative and alternative medicine (CAM) or integrative health eare. As stated in a recent NIH document, "CAM practices are those healthcare and medical practices that are not currently an integral part of conventional medicine." There is increasing interest in CAM among patients, health professions practitioners, faculty in health professions schools, and students. In response to public interest, NIH now includes a National Center for Complementary and Alternative Medicine. We need to know your current knowledge, attitudes, and practices with regard to CAM to help us plan and evaluate pur education programs in the AHC.
Aedical Student:Year 1Year 2
Your Gender: Male Female Your Age: Years (write in number)
Ethnic/Racial Background
Asian/Pacific Islander American Indian/Alaskan Native Black/African American Hispanic Other
Religious Affiliation
Christian Muslim Jewish Deist Agnostic Atheist Other(specify)
Following statements, indicate how closely it represents your general feelings about CAM. =Strongly Agree 2=Agree 3=Neutral 4=Disagree 5=Strongly Disagree Clinical care should integrate the best of conventional and CAM practices. CAM includes ideas and methods from which conventional medicine could benefit. While we need to be cautious in our claims, a number of CAM approaches hold promise for treatment of symptoms, conditions and/or diseases. The results of CAM are in most cases due to a placebo effect. CAM therapies not tested in a scientific manner should be discouraged. While a few CAM approaches may have limited health benefits, they have no true impact on treatment of symptoms, conditions and/or diseases. CAM is a threat to public health
I hope to have some CAM practices available to patients in my practice or referral network.
Health professionals should be able to advise their patients about commonly used CAM methods. CAM practices should be included in my School's curriculum. Knowledge about CAM is important to me as a student/future practicing health professional.
Barriers to use of CAM practices in Western medical settings include: Use Scale Above Lack of evidence for practices Institutional concerns about legal issues Unavailability of credentialed providers Lack of staff training Lack of reimbursement Lack of appropriate equipment Too time consuming Other What primary world view or framework guides your personal health views? Check One a. Western biomedicine b. Another health tradition, e.g. traditional Chinese Medicine Combination of a & b

Complementary and Alternative Medicine (CAM) Student Survey – Page 2

The NIH National Center for Complementary and Alternative Medicine has identified five major domains of complementary and alternative health care. This survey includes A SAMPLING of therapies in each of the domains. The domains are: Alternative Health Systems; Mind-Body Interventions; Biological-Based Therapies; Manipulative and Body-Based Methods, Energy Therapies

For a complete description go to their web site at http://nccam.nih.gov/nccam/fcp/classify/index.html

4. CAM Approaches - "Alternative" or Mainstream?

Historically, some "alternative" approaches reach a point where they are considered "orthodox" or mainstream. For each of the modalities listed below, indicate how you think of each therapy at the present time.

1=Clearly Mainstream 2=Neither Clearly Mainstream or Alternative 3=Clearly Alternative 4=No Opinion

- Acupuncture
- Aromatherapy
- Bioelectromagnetic therapies, e.g., magnets
- Biofeedback
- Chiropractic
- Herbal medicine Homeopathy
- Hypnosis/guided imagery
- Massage
- Music
- Nutritional supplements
- Prayer/spiritual healing
- Meditation
- Rolfing (structural reintegration)
- Therapeutic/healing touch

5. Effectiveness: What is your view about the effectiveness of each of the following CAM modalities?

1=Highly Effective 2=Moderately Effective 3=Not Effective 4=Harmful 5=No Opinion

- Acupuncture
- Aromatherapy
- Bioelectromagnetic therapies, e.g., magnets
- Biofeedback
- Chiropractic
- Herbal medicine
- Homeopathy Hypnosis/guided imagery
- Massage
- Music
- Nutritional supplements
- Praver/spiritual healing
- Meditation
- Rolfing (structural reintegration)
- Therapeutic/healing touch

6. CAM Training: For each of the following CAM practices, how much training/education would you want in your curriculum?

1=None 2=Some, but not Sufficient to Advise Patients About Use 3=Sufficient to Advise Patients About Use

4=Sufficient to Personally Provide

- Acupuncture Aromatherapy Bioelectromagnetic therapies, e.g., magnets Biofeedback Chiropractic Herbal medicine
- Homeopathy
- Hypnosis/guided imagery
- Massage
- Music
- Nutritional supplements Prayer/spiritual healing
- Meditation
- Rolfing (structural reintegration)
- Therapeutic/healing touch

7. Personal Use: For each of the following CAM practices, have you used it personally?

1=No, Would Not Consider Using It 2=No, Would Consider Using It 3=Yes, Have Used it With Positive Outcomes 4=Yes, Have Used it With Neutral Outcomes 5=Yes, Have Used it With Negative Outcomes

- Acupuncture
- Aromatherapy
- Bioelectromagnetic therapies, e.g., magnets
- Biofeedback
- Chiropractic
- Herbal medicine
- Homeopathy
- Hypnosis/guided imagery
- Massage
- Music
 - Nutritional supplements Prayer/spiritual healing
- Meditation
- Rolfing (structural reintegration)
- Therapeutic/healing touch

Complementary and Alternative Medicine (CAM) Student Survey - Page 3

8. CAM Approaches in Your Practice: For each of the following CAM approaches, how do you intend to use it in your practice –personally providing it or referring patients to trained providers?

1= Would Not Recommend

- 2= Would Endorse, but Not Personally Provide or Refer
- 3= Would Provide Personally

4= Would Refer to a CAM Practitioner

- _____ Acupuncture
- Aromatherapy Bioelectromagnetic therapies, e.g., magnets
- _____ Biofeedback
- Chiropractic
- Herbal medicine
- Homeopathy
- Hypnosis/guided imagery
- Massage
- _____ Music
- Nutritional supplements
- Prayer/spiritual healing
- Meditation
- Rolfing (structural reintegration)
- Therapeutic/healing touch

9. Sources of Information: What are your sources of information about CAM?

Check each of the following that applies.

- Peer professionals, e.g., physicians, nurses,
- pharmacists
- Other health care providers
- _____ Medical, nursing, pharmacy, other professional journals
- Mass media-TV, radio, newspapers, magazines
- ____ Internet: WWW, List-serve
- ____ Coursework or formal training
- Referral
- _____ Apprentice with healers

10. Evidence For Use of CAM Practices: How important is each of the following types of evidence to you, to consider when recommending or using a conventional or CAM treatment? 1=Essential 2=Somewhat Essential 3=Somewhat Important 4=Unimportant Proven mechanism Proposed mechanism of action Randomized controlled clinical trials involving animals Randomized controlled clinical trials involving humans Epidemiological studies Published case studies Successful use in my own practice Colleague recommendations Personal experience Patient reports **Clinical trials** ADDITIONAL QUESTIONS 1=Yes, Very Much 2=Yes, Somewhat 3=No 4=No Opinion 11.. Do you believe your spiritual or religious beliefs influence your attitudes toward CAM? 12.. _ Do you believe that CAM can provide better relief in SOME cases where western medicine medicine cannot?

13.. ____ Do you believe that CAM can provide cures in SOME cases where western medicine cannot?

14. CAM Training: Please describe any CAM training you have had.

(If necessary, use the reserve side.)

15. COMMENTS OVERALL: Any other comments you have on CAM practices or education would be welcome.

Complementary and Alternative Medicine (CAM) Student Survey – Page 4

Mind-body medicine uses a variety of techniques designed to enhance the mind's capacity to affect bodily function and symptoms.

For a complete description go to the NIH's web site at http://www.nccam.nih.gov/health/whatiscam/

Of the following statements, indicate that which most closely represents your general feelings about mind body medicine.

1=Strongly Agree 2=Agree 3=Neutral 4=Disagree 5=Strongly Disagree

- _____ I am comfortable sharing my feelings with others when appropriate.
- _____ I have doubts as to whether pursuing a medical degree is suitable for me.
- _____ I feel that I have the capacity of dealing effectively with the stresses of medical school.
- _____ I am very concerned that my classmates may be doing better than I am.
- I have an appreciation of my classmates' concerns and struggles.
- _____ I believe the spiritual dimension is important to healthcare.
- _____ It is not desirable for a physician to take therapeutic advantage of the placebo effect.
- _____ I believe mind body approaches are important to promoting health.
- I believe that mind-body practices such as biofeedback, guided imagery and meditation can bring about profound physical changes.
- _____ Physicians who strive to understand themselves generate improved patient satisfaction.
- _____ The innate healing capacity of patients often determines the outcome of the case, regardless of treatment or intervention.
- _____ It is important for a physician to be able to advise a patient on the risks and benefits of different CAM systems.
- _____ The mind body aproach can have a significant effect on my chronically ill patient's physical and emotional well-being.
- Physicians knowledgeable of multiple medical systems including complementary and alternative medicine in addition to conventional medicine generate improved patient satisfaction.
- _____ Therapeutic touch has been completely discredited as a healing modality.
- _____ Healing is not possible when a disease is incurable.