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Complementary and Alternative Medicine Use Among Adults and Children: United States, 2007

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Abstract

Objective—This report presents selected estimates of complementary and alternative medicine (CAM) use among U.S. adults and children, using data from the 2007 National Health Interview Survey (NHIS), conducted by the Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics (NCHS). Trends in adult use were assessed by comparing data from the 2007 and 2002 NHIS.

Methods—Estimates were derived from the Complementary and Alternative Medicine supplements and Core components of the 2007 and 2002 NHIS. Estimates were generated and comparisons conducted using the SUDAAN statistical package to account for the complex sample design.

Results—In 2007, almost 4 out of 10 adults had used CAM therapy in the past 12 months, with the most commonly used therapies being nonvitamin, nonmineral, natural products (17.7%) and deep breathing exercises (12.7%). American Indian or Alaska Native adults (50.3%) and white adults (43.1%) were more likely to use CAM than Asian adults (39.9%) or black adults (25.5%). Results from the 2007 NHIS found that approximately one in nine children (11.8%) used CAM therapy in the past 12 months, with the most commonly used therapies being nonvitamin, nonmineral, natural products (3.9%) and chiropractic or osteopathic manipulation (2.8%). Children whose parent used CAM were almost five times as likely (23.9%) to use CAM as children whose parent did not use CAM (5.1%). For both adults and children in 2007, when worry about cost delayed receipt of conventional care, individuals were more likely to use CAM than when the cost of conventional care was not a worry. Between 2002 and 2007 increased use was seen among adults for acupuncture, deep breathing exercises, massage therapy, meditation, naturopathy, and yoga. CAM use for head or chest colds showed a marked decrease from 2002 to 2007 (9.5% to 2.0%).

Keywords: complementary and alternative medicine • National Health Interview Survey

Introduction

Complementary and alternative medicine (CAM) covers a heterogeneous spectrum of ancient to new-age approaches that purport to prevent or treat disease. By definition, CAM practices are not part of conventional medicine because there is insufficient proof that they are safe and effective (1). Complementary interventions are used together with conventional treatments, whereas alternative interventions are used instead of conventional medicine.

Generally, persons who choose CAM approaches are seeking ways to improve their health and well-being (2,3) or to relieve symptoms associated with chronic, even terminal, illnesses or the side effects of conventional treatments for them (4,5). Other reasons for choosing to use CAM include having a holistic health philosophy or a transformational experience that changes one's world view and wanting greater control over one's own health (6,7). Many types of CAM practitioners try to treat not only the physical and biochemical manifestations of illness, but also the nutritional, emotional, social, and spiritual context in which the illness arises. The overwhelming majority of patients using CAM



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approaches do so to complement conventional care rather than as an alternative to conventional care (6,8).

According to the 2002 National Health Interview Survey (NHIS), one-third of adults used some form of CAM (9). Commonly used CAM therapies included nonvitamin, nonmineral, natural products; deep breathing exercises; meditation; chiropractic care; yoga; massage; and diet-based therapies (9). CAM was most often used to treat back pain or back problems, head or chest colds, neck pain or neck problems, joint pain or stiffness, and anxiety or depression. Although less prevalent, strong associations were still seen for individuals using CAM approaches to treat or provide symptom relief for cancer, cardiovascular diseases, and lung diseases (10,11). CAM use was more prevalent among women, among adults who had higher educational attainment or who engaged in leisure-time physical activity, as well as among adults who had one or more existing health conditions or who made frequent medical visits in the prior year (12,13).

This report is based on CAM supplements that were administered as part of the Sample Adult and Sample Child questionnaires of the 2007 NHIS, as well as a supplement that was part of the Sample Adult questionnaire of the 2002 NHIS. Due to expanded questions for adults and the inclusion of questions for children, data from the 2007 NHIS should provide additional detail about CAM use by adults, as well as providing the first national data on CAM use by children aged 0–17 years. In particular, this report examines the relationship of CAM use and demographic and health behaviors among groups not previously studied in detail, including racial and ethnic groups and children. In addition, the report provides an update on who uses CAM and the therapies used by examining changes in adult use between 2002 and 2007. Subsequent reports will examine the costs of CAM use and the reasons individuals choose to use, or not use, CAM.

Methods

Data source

The statistics shown in this report are based on data from the Adult and Child Complementary and Alternative Medicine supplements, the Sample Adult and Sample Child Core, and the Family Core components of the 2007 NHIS, as well as the Adult Complementary and Alternative Medicine supplement, the Sample Adult Core, and the Family Core components of the 2002 NHIS (14). The NHIS is in the field continuously, conducted by the Centers for Disease Control and Prevention's National Center for Health Statistics. It is a survey of a nationally representative sample of the civilian noninstitutionalized household population of the United States. Basic health and demographic information are collected on all household members. All adult members of the household who are home at the time of the interview are invited to participate and respond for themselves. Proxy responses are accepted for adults not present at the time of the interview but are mandatory for children. Additional or supplemental information, such as the CAM, is collected on one randomly selected adult aged 18 years or over (the "sample adult") and one randomly selected child aged 0–17 years (the "sample child") in each family. Information on the sample adult is self-reported except in rare cases when the sample adult is physically or mentally incapable of responding, and information on the sample child is collected from an adult who is knowledgeable about the child's health, usually a parent.

The 2007 Complementary and Alternative Medicine supplement included questions on 36 types of CAM therapies used in the United States (Table 1). These therapies included 10 types of provider-based CAM therapies (e.g., acupuncture, chiropractic and osteopathic manipulation, traditional healers), as well as 26 other CAM therapies for which the services of a provider are not necessary (e.g.,

nonvitamin, nonmineral, natural products; special diets; movement therapies). A list and descriptions of the 36 CAM therapies included in the 2007 NHIS are found in the "Technical Notes" following this report. Using the classification system employed by the National Center for Complementary and Alternative Medicine (NCCAM), the 36 CAM therapies were grouped into five broad categories for analytical purposes: Alternative medical systems; Biologically based therapies; Manipulative and body-based therapies; Mind-body therapies; and Energy healing therapies. Following the taxonomy of unconventional health care proposed by Kaptchuk and Eisenberg (15), folk medicine practices (e.g., covering a wart with a penny then burying the penny, treating a cold with chicken soup) and religious (faith) healing (e.g., praying for one's own health, or having others pray for one's health) are not included in the definition of CAM used in this report. Inclusion and development of the 2007 supplement was supported by seven Institutes, Centers, or Offices of the National Institutes of Health: NCCAM; National Heart, Lung, and Blood Institute; National Institute of Allergy and Infectious Diseases; National Institute of Mental Health; National Institute of Child Health and Human Development; Office of Dietary Supplements; and Office of Behavioral and Social Science Research.

The 2007 NHIS CAM supplement varied in several ways from the 2002 NHIS CAM supplement. In order to more accurately record use of CAM in the United States, the 2007 NHIS expanded the number of CAM therapies to 36 from the 27 used in the 2002 survey; in particular, sections were added on traditional healers (e.g., Curandero, Hierbero, Sobador, etc.) and on movement therapies (e.g., Alexander technique, Feldenkrais method, Trager Psychophysical Integration). The 2007 survey also expanded the number of diseases treated with CAM to 81 from the 73 used in 2002. The section on nonvitamin, nonmineral, natural products in 2007 was substantially changed from that used in 2002 in two

ways: First, the list of products was expanded from 35 in 2002 to 45 in 2007. Second, the reference period for use of these products was reduced from 12 months in 2002 to 30 days in 2007. Finally, the 2007 survey included questions on the prevalence of CAM use by children and the diseases or conditions being treated.

There were several reasons for the above changes. First, after publication of the 2002 NHIS data (9), NCCAM received suggestions from the community for additional therapies to be added. Second, a number of nonvitamin, nonmineral, natural products became commonly available after the 2002 CAM supplement was designed. Third, the reference period for nonvitamin, nonmineral, natural products was shortened from 12 months to 30 days to be more congruent with other national surveys of dietary supplement use, such as the National Health and Nutrition Examination Survey. Finally, pilot testing of the 2007 CAM supplement led to some questions in the 2002 survey being dropped or subsumed into other questions.

Statistical analysis

In 2007, NHIS interviews were completed in 29,266 households, which yielded 75,764 persons in 29,915 families and a household response rate of 87.1%. This report is based on data from 23,393 completed interviews with sample adults aged 18 years and over and 9,417 completed interviews for sample children aged 0–17 years. The final 2007 sample adult and sample child response rates were 67.8% and 76.5%, respectively. In 2002, NHIS interviews were completed in 36,161 households, which yielded 93,386 persons in 36,831 families and a household response rate of 89.6%. This report is also based on 2002 data from 31,044 completed interviews with sample adults aged 18 years and over. The final 2002 sample adult response rate was 74.3%. Procedures used in calculating response rates are described in detail in Appendix I of the Survey Description Document of the NHIS data files (16).

All estimates and associated standard errors shown in this report were generated using SUDAAN, a software package designed to account for a complex sample design such as that of the NHIS (17). All estimates for adults were weighted, using the sample adult record weight, to represent the U.S. civilian noninstitutionalized population aged 18 years and over. All estimates for children were weighted, using the sample child record weight, to represent the U.S. civilian noninstitutionalized population aged 0–17 years.

In tables shown in this report, estimates with a relative standard error of more than 30% but less than or equal to 50% are identified with an asterisk (*), indicating they are statistically unstable due to small sample size. Estimates with a relative standard error of greater than 50% are indicated with a dagger (†) and are not shown.

Most estimates presented in this report were age adjusted using the projected 2000 U.S. population as the standard population (18,19). Age adjustment was used to allow comparison of various sociodemographic subgroups that have different age distributions (see “[Technical Notes](#)”). Estimates were compared using two-tailed significance tests at the 0.05 level. No adjustments were made for multiple comparisons. Terms such as *greater than* and *less than* indicate a statistically significant difference. Terms such as *similar* or *no difference* indicate that the statistics being compared were not significantly different. Lack of comment regarding the difference between any two statistics does not mean that the difference was tested and found to be not significant.

Strengths and limitations of the data

A major strength of the CAM data in the NHIS is that they were collected for a nationally representative sample of U.S. adults and children, allowing estimation of CAM use for a wide variety of population subgroups. The large sample size also facilitates investigation of the association between

CAM and a wide range of other self-reported health characteristics— included in the NHIS, such as health behaviors, chronic health conditions, injury and poisoning episodes, access to medical care, and health insurance coverage. The sample sizes for both the 2007 and the 2002 NHIS allow for detailed analysis of CAM use among Hispanic subpopulations, but not among subpopulations of Asians and other minority groups with smaller populations.

The NHIS questions have several limitations. First, they are dependent on respondents’ memory or their willingness to report use accurately. Second, the collection of survey data at a single point in time results in an inability to produce consecutive annual prevalence estimates; and it reduces the ability to produce reliable prevalence estimates for small population subgroups, as this would require a larger sample or more than 1 year of data. Third, CAM use among children might be higher than our results indicate, especially among adolescents who may not reveal their CAM use to parents or other household adults. Finally, there is a difference in the reference periods for use of nonvitamin, nonmineral, natural products in 2002 (12 months) and 2007 (30 days). Generally, shorter reference periods result in better recall and better data.

Results

Use of complementary and alternative medicine in past 12 months—adults ([Table 1](#))

- In 2007, the CAM therapies most commonly used by U.S. adults in the past 12 months were nonvitamin, nonmineral, natural products (17.7%), deep breathing exercises (12.7%), meditation (9.4%), chiropractic or osteopathic manipulation (8.6%), massage (8.3%), and yoga (6.1%).
- Among U.S. adults, the use of some mind body therapies increased between 2002 and 2007. Specific mind body therapies showing increased use included: deep

breathing exercises, meditation, and yoga.

- Between 2002 and 2007, increased use was also seen for acupuncture, massage therapy, and naturopathy.
- Between 2002 and 2007, there was a significant decrease in the use of the Atkins diet.

Use of complementary and alternative medicine—children (Table 2)

- In 2007, the CAM therapies most commonly used by U.S. children in the past 12 months were nonvitamin, nonmineral, natural products (3.9%), chiropractic or osteopathic manipulation (2.8%), deep breathing exercises (2.2%), yoga (2.1%), and homeopathic treatment (1.3%).
- Children whose parent used CAM therapy were about twice as likely as all U.S. children to have used nonvitamin, nonmineral, natural products (9.2% and 3.9%), chiropractic or osteopathic manipulation (5.7% and 2.8%), deep breathing exercises (5.4% and 2.2%), yoga (4.7% and 2.1%), and homeopathic treatment (2.8% and 1.3%) in the past 12 months.

Use of selected nonvitamin, nonmineral, natural products—adults (Table 3)

- In 2007, the most commonly used nonvitamin, nonmineral, natural products used by adults for health reasons in the past 30 days were fish oil or omega 3 or DHA (37.4%), glucosamine (19.9%), echinacea (19.8%), flaxseed oil or pills (15.9%), and ginseng (14.1%).

Use of selected nonvitamin, nonmineral, natural products—children (Table 4)

- In 2007, the most commonly used nonvitamin, nonmineral, natural products used by children for health reasons in the past 30 days were echinacea (37.2%), fish oil or omega 3 or DHA (30.5%), combination herb

pill (17.9%), and flaxseed oil or pills (16.7%).

Medical conditions treated with CAM—adults (Table 5 and Figures 1 and 2)

- In 2007, adults used CAM most often to treat a variety of musculoskeletal problems—including back pain or problems (17.1%), neck pain or problems (5.9%), joint pain or stiffness or other joint condition (5.2%), arthritis (3.5%), and other musculoskeletal conditions (1.8%) (Table 5).
- The prevalence of CAM use for back pain or problems, neck pain or problems, joint pain or stiffness, and arthritis and fibromyalgia is relatively unchanged since 2002 (Figure 1).
- The use of CAM therapies for head or chest colds showed a marked decrease from 2002 to 2007 (9.5% to 2.0%) (Figure 2). A smaller decrease in use was seen for stomach or intestinal illness (Figure 2).
- A small increase in CAM use was seen for treating cholesterol problems (Figure 3).

Medical conditions treated with CAM—children (Table 6)

- In 2007, among children who used CAM in the past 12 months, CAM therapies were used most often for back or neck pain (6.7%), head or chest colds (6.6%), anxiety or stress (4.8%), other musculoskeletal problems (4.2%), and ADHD/ADD (2.5%).

Use of CAM by selected characteristics—adults (Table 7)

- In 2007, almost 4 out of 10 adults (38.3%) had used some type of CAM in the past 12 months.
- Consistent with results from the 2002 NHIS, in 2007 CAM use was more prevalent among women, adults aged 30–69, adults with higher levels of education, adults who were not poor, adults living in the West, former smokers, and adults who were hospitalized in the last year.
- For adults younger than 65 years of age, in 2002 and 2007, those with private health insurance were more likely than those with public health insurance or uninsured adults

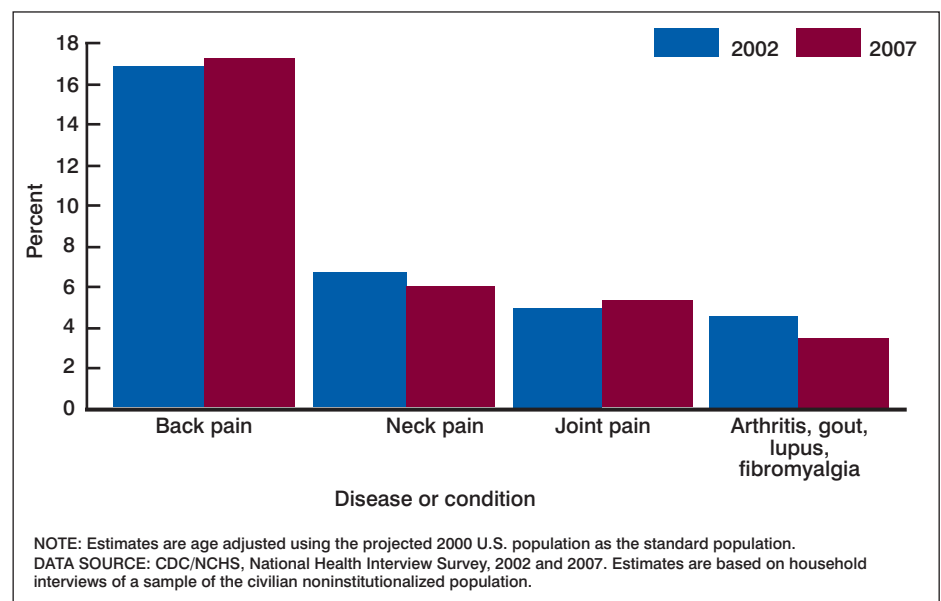


Figure 1. Percentage of adults 18 years of age and over who used complementary and alternative medicine during the past 12 months to treat selected musculoskeletal diseases and conditions, by year: United States, 2002 and 2007

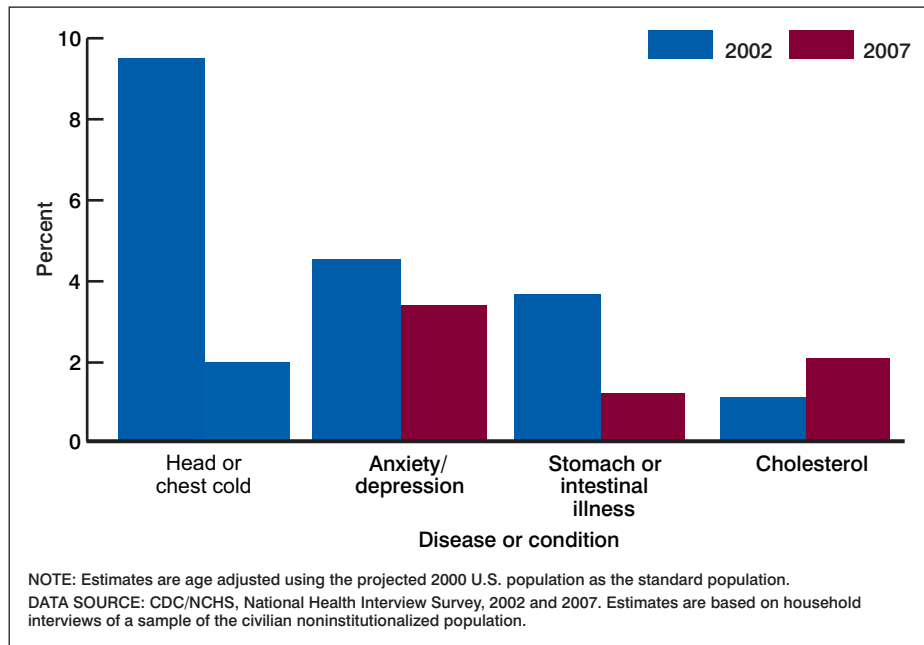


Figure 2. Percentage of adults 18 years of age and over who used complementary and alternative medicine during the past 12 months to treat selected diseases and conditions, by year: United States, 2002 and 2007

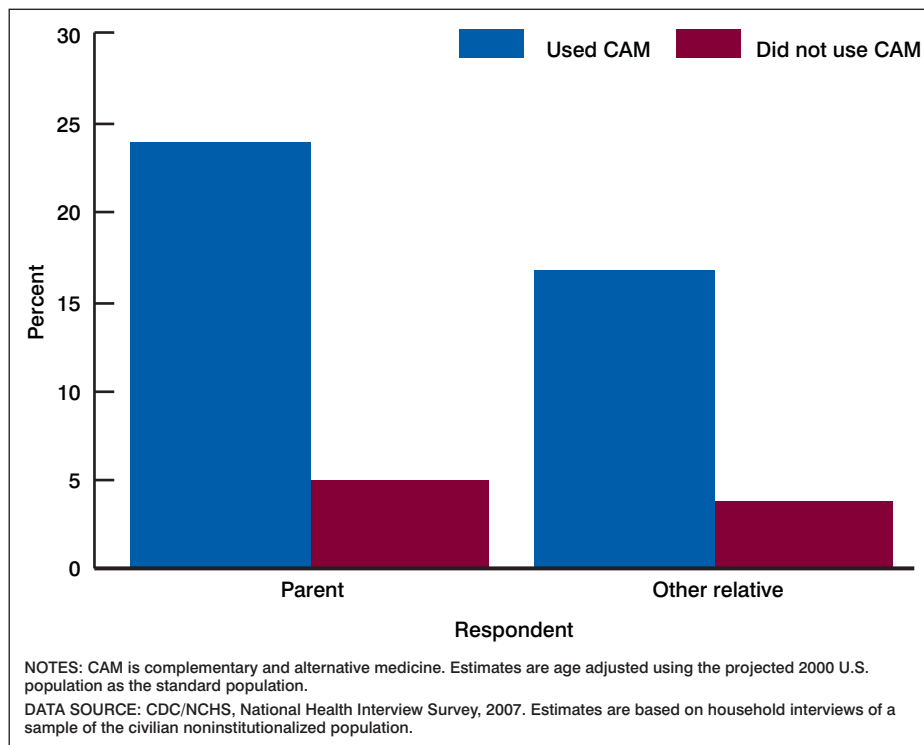


Figure 3. Percentage of children under 18 years of age who used complementary and alternative medicine during the past 12 months, by complementary and alternative medicine use by parent or other relative respondent: United States, 2007

health insurance (2.6%) were less likely to use alternative medical systems than uninsured adults (4.0%) or adults with private health insurance (3.9%).

- Similar to 2002, in 2007, CAM usage was positively associated with number of health conditions and number of doctor visits in the past 12 months; however, about one-fifth of adults with no health conditions and one-quarter of adults with no doctor visits in the past 12 months used CAM therapies.
- In both 2002 and 2007, when worry about cost delayed the receipt of conventional medical care, adults were more likely to use CAM than when the cost of conventional care was not a worry.
- In both 2002 and 2007, when unable to afford conventional medical care, adults were more likely to use CAM than when the cost of conventional care was affordable.
- Among Hispanic subpopulations in 2007, Mexican adults (18.2%) were less likely than Puerto Rican (29.7%), Mexican American (27.4%), Dominican (28.2%), and Central or South American (23.4%) adults to use CAM therapies.
- Puerto Rican and Mexican-American adults were more likely than Mexican adults to use biologically based therapies or manipulative and body-based therapies in 2007.

Use of CAM by selected characteristics—children (Table 8 and Figure 3)

- In 2007, approximately one in nine children (11.8%) used some type of CAM therapy during the past 12 months (Table 8).
- Children were more likely to have used biologically based therapies (4.7%), mind-body therapies (4.3%), or manipulative and body-based therapies (3.7%) than alternative medical systems (2.6%) or energy therapies (0.2%) (Table 8).
- Girls were no more likely than boys to use some type of CAM therapy. However, girls (4.9%) were more

to use biologically based therapies and manipulative and body-based therapies. Those with private insurance were also more likely to

use mind-body therapies in 2007, a result not found in 2002.

- In 2007, but not 2002, adults younger than 65 years of age with public

likely than boys (3.8%) to use mind-body therapies (Table 8).

- For all therapies combined, CAM use was more likely among adolescents aged 12–17 years (16.4%) than younger children aged 5–11 years (10.7%) or pre-school children aged 0–4 years (7.6%) (Table 8).
- White children (12.8%) were twice as likely as black children (5.9%) to use CAM therapies (Table 8).
- Non-Hispanic children (12.8%) were 1.5 times as likely as Hispanic children (7.9%) to use CAM therapies (Table 8).
- Children's use of CAM increased as their parent's education level increased (Table 8).
- Children in families that were not poor (14.6%) were more likely to use CAM therapies than children in near-poor or poor families (9.3% and 7.0%) (Table 8).
- Children with private health insurance (13.7%) were more likely than uninsured children (10.2%) or children with public health insurance (8.6%) to use CAM therapies (Table 8).
- Regionally, lower proportions of children in the South (8.8%) used CAM than of children in the Northeast (12.6%), Midwest (13.6%), or West (14.4%) (Table 8).
- CAM usage by children is positively associated with number of health conditions in the past 12 months (Table 8).
- CAM usage by children is also positively associated with number of doctor visits in the past 12 months (Table 8).
- When family worry about cost delayed the receipt of conventional medical care, children were more likely to use CAM than when the cost of conventional care was not a worry (Table 8).
- When families were unable to afford conventional medical care, children were more likely to use CAM than when the cost of conventional care was affordable (Table 8).
- Children whose parent used CAM were almost five times as likely (23.9%) to use CAM as children

whose parent did not use CAM (5.1%) (Figure 3).

Discussion

While the prevalence of many individual therapies was similar between 2002 and 2007, acupuncture, deep breathing exercises, massage therapy, meditation, naturopathy, and yoga showed significant increases. The increases for acupuncture, massage therapy, and naturopathy may in part be due to the greater number of states that license these practices and a corresponding increase in the number of licensed practitioners between 2002 and 2007. This same time period has also seen large numbers of articles in the lay press extolling the benefits of these therapies, increasing awareness of them in the general population. Together, increased opportunity and increased awareness may explain much of the observed increase in adult use of CAM.

While the use of these therapies has increased from 2002 to 2007, scientific research provided only limited evidence of clinical efficacy for these therapies. For instance, the National Library of Medicine journal database, PubMed, identified 40 systematic reviews involving acupuncture, massage therapy, naturopathy, or yoga published between 2002 and 2007. Of these, only 10 (25%) of the systematic reviews found sufficient evidence to conclude that a given CAM therapy was effective for a given condition: acupuncture and yoga for back pain (20,21), acupuncture for knee pain (including osteoarthritis) (22–24), acupuncture for insomnia (25), and acupuncture for nausea or vomiting (including postoperative, chemotherapy-induced, and pregnancy-induced) (26–29). In addition, a systematic review (30) concluded that both acupuncture and, to a lesser extent, massage therapy should be included among recommended therapies for treating back pain. That review served as the basis for joint clinical practice guidelines released by the American College of Physicians and the American Pain Society (31).

Three types of special diets (Macrobiotic, Atkins, and Zone) saw

significant decreases in use by U.S. adults since 2002, with the Atkins diet seeing the largest change. Interestingly, this decrease occurred despite the completion and publication of two well publicized studies in major medical journals demonstrating the short-term safety and efficacy of the Atkins Diet for weight loss (32,33). It may be that the public was influenced by substantial negative coverage of the Atkins diet in the popular press, as well as continuing physician concerns about the diet (34).

Besides the NHIS, the only national survey of CAM use covering the full age range of children was the 1996 Medical Expenditures Panel Survey (MEPS). The 1996 MEPS included questions on the use of several CAM providers (e.g., acupuncturist, chiropractor, massage therapist, etc.), but did not include questions on the use of nonpractitioner CAM therapies (e.g., dietary supplements, relaxation techniques) (35,36). Because very different definitions of CAM were used in MEPS and the 2007 NHIS, direct comparisons of prevalence cannot be made. However, it is possible to compare relative rank order of selected items in the two surveys. For example, the MEPS (36) rank order (highest to lowest prevalence) of therapist-based CAM interventions used by children was chiropractic care, massage therapy, acupuncture, and homeopathy and naturopathy combined, while the NHIS order was chiropractic or osteopathic manipulation, homeopathy and naturopathy combined, massage therapy, and acupuncture. It is not clear whether these differences reflect changes in the patterns of CAM use over time or differences in survey design.

The specific sociodemographic factors found to be associated with a child's use of CAM, differed between the 1996 MEPS and the 2007 NHIS, although both surveys found an association with children who were older, white, had multiple visits with a conventional medical provider, or had a parent who used CAM (35,36). Only MEPS identified female gender as associated with CAM use in children. Only NHIS identified non-Hispanic origin, higher education of the parent,

higher income (poverty status), not living in the South, and having a usual place of care as associated with a child's use of CAM.

In addition to NHIS and MEPS, there have been several limited population surveys of CAM use by children in the United States (37–39). These surveys have varied considerably from NHIS and MEPS in their data collection methods, geographic distribution, age range, reference period, and the choice of therapies defined as CAM. Thus, direct comparisons of the overall prevalence rate of CAM use or the rates of use of any given CAM therapy from these surveys cannot be made with the NHIS.

To our knowledge, the 2007 NHIS is the first national survey of nonvitamin, nonmineral, natural product use by children 0–17 years of age. Many of the same products used most often by adults were used most often by children; three of the four most prevalent nonvitamin, nonmineral, natural products used by adults (Echinacea, fish oil or omega 3 or DHA, flaxseed oil or pills), were among the top four products used by children. This is not surprising given that children, especially younger children, are dependent on adults for their health care. Children whose parent used nonvitamin, nonmineral, natural products were more than twice as likely as children whose parent did not use them to have used this type of CAM (40).

Several of the products used most often by children are generally used for heart health or cancer prevention (e.g., fish oil or flaxseed). However, in the NHIS, more than one-half of these products were not used to treat or prevent the child's specific conditions, suggesting "wellness" as a reason for use.

More widely used CAM therapies such as chiropractic or osteopathic manipulation; nonvitamin, nonmineral, natural products; and massage therapy, as well as lesser used therapies such as the Alexander technique, biofeedback, and energy healing therapies have been studied by various researchers (12). The attention given to specific CAM

modalities by the scientific community does not correlate with the prevalence of use by the public as measured by the 2007 NHIS. For example, the Institute of Medicine identified 79 systematic reviews of acupuncture and 38 studies of homeopathy (placing them 3rd and 4th among all CAM therapies), yet NHIS found that less than 1.5% of the adult U.S. public used each of these therapies in a given year. In fact, there is no meaningful correlation between the number of published studies of a CAM therapy and its use by the U.S. public. CAM therapies with relatively infrequent use by the public (e.g., biofeedback, hypnotherapy, acupuncture) are those with the highest level of acceptance and referral by physician groups, including pediatricians (41–43), typifying the inadequate communication between patients and providers concerning CAM issues (8). To improve patient-provider communication, the academic health community (44) and NCCAM (45) have initiated programs to encourage and facilitate such discussions.

Conclusions

Examination of the data from the 2007 and 2002 NHIS suggests that overall use of CAM in the adult U.S. noninstitutionalized population had held relatively steady. However, over this 5-year period there has been substantial variation in the use of specific CAM therapies. The 2007 NHIS contained a number of questions assessing the reasons individuals chose to use or discontinue use of various CAM therapies. Future analyses of these data may help explain some of the observed variation in the use of individual CAM therapies.

The 2007 NHIS provided the first data on a nationally representative sample of children aged 0–17 years. It was found that overall CAM use in children is substantially less than in adults. However, children are more likely to use CAM if a parent or other relative used CAM. While pain conditions have remained the primary health problems for which CAM is used by adults, this is less clear in children.

In other regards, the characteristics of adult and child CAM users are similar—for example, education, poverty status, geographic region, the number of health conditions, the number of doctor visits in the last 12 months, and delaying or not receiving conventional care because of cost are all associated with CAM use.

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Table 1. Frequencies and age-adjusted percentages of adults 18 years of age and over who used complementary and alternative medicine in the past 12 months, by type of therapy: United States, 2002 and 2007

Therapy	2002		2007		Difference between percents
	Number in thousands	Percent (standard error)	Number in thousands	Percent (standard error)	
Alternative medical systems					
Acupuncture	2,136	1.1 (0.07)	3,141	1.4 (0.10)	[⊖] 0.3
Ayurveda	154	0.1 (0.02)	214	*0.1 (0.03)	...
Homeopathic treatment	3,433	1.7 (0.09)	3,909	1.8 (0.11)	0.1
Naturopathy	498	0.2 (0.03)	729	0.3 (0.04)	[⊖] 0.1
Traditional healers ¹ . . . . .	...	...	812	0.4 (0.06)	...
Curandero . . . . .	...	...	21	*0.0 (0.00)	...
Espiritista . . . . .	...	...	20	†	...
Hierbero or Yerbera . . . . .	...	...	41	*0.0 (0.01)	...
Shaman . . . . .	...	...	186	0.1 (0.02)	...
Botanica . . . . .	...	...	95	*0.0 (0.02)	...
Native American healer or Medicine man . . . . .	...	...	224	*0.1 (0.05)	...
Sobador . . . . .	...	...	267	0.1 (0.03)	...
Biologically based therapies					
Chelation therapy	66	*0.0 (0.01)	111	*0.0 (0.02)	...
Folk medicine	233	0.1 (0.02)	...	...	...
Nonvitamin, nonmineral, natural products ²	38,183	18.9 (0.28)	...	...	...
Nonvitamin, nonmineral, natural products ² . . . . .	...	...	38,797	17.7 (0.37)	...
Diet-based therapies ^{1,3}	7,099	3.5 (0.12)	7,893	3.6 (0.15)	...
Vegetarian diet	3,184	1.6 (0.08)	3,351	1.5 (0.10)	-0.1
Macrobiotic diet	317	0.2 (0.03)	171	0.1 (0.02)	-0.1
Atkins diet	3,417	1.7 (0.09)	2,673	1.2 (0.09)	[⊖] 0.5
Pritikin diet	137	0.1 (0.02)	78	†	...
Ornish diet	76	*0.0 (0.01)	77	*0.0 (0.02)	...
Zone diet	430	0.2 (0.03)	205	0.1 (0.02)	-0.1
South Beach . . . . .	...	...	2,334	1.1 (0.09)	...
Megavitamin therapy	5,739	2.8 (0.11)	...	...	...
Manipulative and body based therapies					
Chiropractic care ⁴	15,226	7.5 (0.19)	...	...	...
Chiropractic or osteopathic manipulation ⁴ . . . . .	...	...	18,740	8.6 (0.27)	...
Massage	10,052	5.0 (0.16)	18,068	8.3 (0.23)	[⊖] 3.3
Movement therapies ¹ . . . . .	...	...	3,146	1.5 (0.10)	...
Feldenkrais . . . . .	...	...	96	*0.0 (0.01)	...
Alexander technique . . . . .	...	...	134	*0.1 (0.02)	...
Pilates . . . . .	...	...	3,015	1.4 (0.09)	...
Trager Psychophysical Integration . . . . .	...	...	37	*0.0 (0.01)	...
Mind-body therapies					
Biofeedback	278	0.1 (0.02)	362	0.2 (0.04)	0.1
Meditation	15,336	7.6 (0.20)	20,541	9.4 (0.27)	[⊖] 1.8
Guided imagery	4,194	2.1 (0.10)	4,866	2.2 (0.16)	0.1
Progressive relaxation	6,185	3.0 (0.12)	6,454	2.9 (0.15)	-0.1
Deep breathing exercises	23,457	11.6 (0.24)	27,794	12.7 (0.30)	[⊖] 1.1
Hypnosis	505	0.2 (0.03)	561	0.2 (0.04)	0.0
Yoga	10,386	5.1 (0.16)	13,172	6.1 (0.21)	[⊖] 1.0
Tai chi	2,565	1.3 (0.08)	2,267	1.0 (0.08)	[⊖] 0.3
Qi gong	527	0.3 (0.04)	625	0.3 (0.04)	0.0
Energy healing therapy/Reiki	1,080	0.5 (0.05)	1,216	0.5 (0.06)	0.0

* Estimates preceded by an asterisk have a relative standard error of greater than 30% and less than or equal to 50% and do not meet the standard of reliability or precision.

... Category not applicable.

0.0 Figure does not meet standards of reliability or precision and quantity more than zero but less than 0.05.

† Estimates with a relative standard error greater than 50% are indicated with a dagger, but are not shown.

[⊖] $p < .05$. [⊖] $p < .01$. [⊖] $p < .001$. [⊖] $p < .0001$.

¹The totals of the numbers and percentages of the categories listed under Traditional healers, Diet-based therapies, and Movement therapies, are greater than the number and percentage of their respective category heading because respondents could choose more than one of the categories.

²While questions were asked about nonvitamin, nonmineral, natural products in both 2002 and 2007, the data are not comparable due primarily to question order and the specific nonvitamin, nonmineral, natural products covered.

³While questions were asked about Diet-based therapies in both 2002 and 2007, the data are not comparable because respondents were asked about the South Beach Diet in 2007, but not in 2002.

⁴While questions were asked about chiropractic therapy in both 2002 and 2007, the data are not comparable because respondents were asked about chiropractic care in 2002 and chiropractic or osteopathic manipulation in 2007.

NOTES: The denominators for statistics shown exclude persons with unknown complementary and alternative medicine information. Estimates are age adjusted using the projected 2000 U.S. population as the standard population using four age groups: 18–24 years, 25–44 years, 45–64 years, and 65 years and over.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, 2002 and 2007. Estimates are based on household interviews of a sample of the civilian, noninstitutionalized population.

Table 2. Frequencies and age-adjusted percentages of children under 18 years of age who used complementary and alternative medicine in the past 12 months, by type of therapy: United States, 2007

Therapy	All children		Children whose parent used CAM ¹	
	Number in thousands	Percent (standard error)	Number in thousands	Percent (standard error)
Alternative medical systems				
Acupuncture	150	0.2 (0.05)	27	*0.2 (0.09)
Ayurveda	79	*0.1 (0.04)	7	†
Homeopathic treatment	907	1.3 (0.22)	354	2.8 (0.59)
Naturopathy	237	0.3 (0.09)	111	†
Traditional healers ²	767	1.1 (0.18)	106	*0.8 (0.26)
Curandero	56	†	5	†
Espiritista	510	0.7 (0.15)	73	*0.6 (0.24)
Hierbero or Yerbero	40	*0.1 (0.02)	7	†
Shaman	29	†	5	†
Botanica	34	†	–	–
Native American healer or Medicine man	98	*0.1 (0.05)	13	†
Sobador	63	*0.1 (0.03)	3	†
Biologically based therapies				
Chelation therapy	72	*0.1 (0.04)	7	†
Nonvitamin, nonmineral, natural products	2,850	3.9 (0.32)	1,194	9.2 (1.08)
Diet-based therapies ²	565	0.8 (0.11)	181	1.4 (0.36)
Vegetarian diet	367	0.5 (0.07)	98	*0.7 (0.24)
Macrobiotic diet	21	†	–	–
Atkins diet	88	*0.1 (0.05)	62	†
Pritikin diet	16	†	–	–
Ornish diet	48	†	–	–
Zone diet	18	†	–	–
South Beach	128	*0.2 (0.05)	48	*0.4 (0.17)
Manipulative and body based therapies				
Chiropractic or osteopathic manipulation	2,020	2.8 (0.25)	754	5.7 (0.74)
Massage	743	1.0 (0.13)	297	2.2 (0.47)
Movement therapies ²	299	0.4 (0.07)	57	*0.4 (0.18)
Feldenkrais	29	†	4	†
Alexander technique	54	*0.1 (0.03)	–	–
Pilates	245	0.3 (0.07)	41	*0.3 (0.15)
Trager Psychophysical Integration	39	†	12	†
Mind-body therapies				
Biofeedback	119	0.2 (0.05)	36	*0.3 (0.12)
Meditation	725	1.0 (0.12)	400	3.0 (0.51)
Guided imagery	293	0.4 (0.09)	197	1.5 (0.40)
Progressive relaxation	329	0.5 (0.09)	164	1.3 (0.37)
Deep breathing exercises	1,558	2.2 (0.22)	704	5.4 (0.76)
Hypnosis	67	*0.1 (0.04)	18	†
Yoga	1,505	2.1 (0.18)	618	4.7 (0.63)
Tai chi	113	*0.2 (0.05)	56	*0.4 (0.19)
Qi gong	50	†	4	†
Energy healing therapy	161	0.2 (0.05)	52	*0.4 (0.17)

* Estimates preceded by an asterisk have a relative standard error of greater than 30% and less than or equal to 50% and do not meet the standard of reliability or precision.

† Estimates with a relative standard error greater than 50% are indicated with a dagger, but are not shown.

– Quantity zero.

¹The child's parent was also the sample child respondent, the sample adult, and used CAM. Other sample child respondents are not included.

²The totals of the numbers and percentages of the categories listed under Traditional healers, Diet-based therapies, and Movement therapies, are greater than the number and percentage of their respective category heading because respondents could choose more than one of the categories.

NOTES: CAM is complementary and alternative medicine. The denominators for statistics shown exclude persons with unknown complementary and alternative medicine information. Estimates are age adjusted using the projected 2000 U.S. population as the standard population using three age groups: 0–4 years, 5–11 years, and 12–17 years.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, 2007. Estimates are based on household interviews of a sample of the civilian, noninstitutionalized population.

Table 3. Frequencies and age-adjusted percentages of adults 18 years and over who used selected types of nonvitamin, nonmineral, natural products for health reasons in the past 30 days, by type of product used: United States, 2007

Nonvitamin, nonmineral, natural products	Used selected nonvitamin, nonmineral, natural products ¹	
	Number in thousands	Percent ² (standard error)
Fish oil or omega 3 or DHA	10,923	37.4 (1.13)
Glucosamine	6,132	19.9 (0.91)
Echinacea	4,848	19.8 (1.01)
Flaxseed oil or pills	4,416	15.9 (0.87)
Ginseng	3,345	14.1 (0.87)
Combination herb pill	3,446	13.0 (0.83)
Ginkgo biloba	2,977	11.3 (0.88)
Chondroitin	3,390	11.2 (0.82)
Garlic supplements	3,278	11.0 (0.66)
Coenzyme Q-10	2,691	8.7 (0.60)
Fiber or psyllium	1,791	6.6 (0.61)
Green tea pills	1,528	6.3 (0.65)
Cranberry (pills, gencaps)	1,560	6.0 (0.63)
Saw palmetto	1,682	5.1 (0.46)
Soy supplements or isoflavones	1,363	5.0 (0.53)
Melatonin	1,296	4.6 (0.48)
Grape seed extract	1,214	4.3 (0.43)
MSM (methylsulfonylmethane)	1,312	4.1 (0.37)
Milk thistle	1,001	3.7 (0.49)
Lutein	1,047	3.4 (0.38)

¹Respondents may have used more than one nonvitamin, nonmineral, natural product.

²The denominator used in the calculation of percentages was the number of adults who used nonvitamin, nonmineral, natural products within the past 30 days, excluding persons with unknown information for usage of the specified nonvitamin, nonmineral, natural product.

NOTE: Estimates were age adjusted using the projected 2000 U.S. population as the standard population and using four age groups: 18–24 years, 25–44 years, 45–64 years, and 65 years and over.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, 2007. Estimates are based on household interviews of a sample of the civilian, noninstitutionalized population.

Table 4. Frequencies and age-adjusted percentages of children under 18 years of age who used selected types of nonvitamin, nonmineral, natural products, for health reasons in the past 30 days, by type of product used: United States, 2007

Nonvitamin, nonmineral, natural products	Used selected nonvitamin, nonmineral, natural products ¹	
	Number in thousands	Percent ² (standard error)
Echinacea	524	37.2 (4.94)
Fish oil or omega 3 or DHA	441	30.5 (4.88)
Combination herb pill	296	17.9 (3.94)
Flaxseed oil or pills	233	16.7 (4.85)
Prebiotics or probiotics	199	*13.6 (4.49)
Goldenseal	143	*8.6 (3.83)
Garlic supplements	84	*5.9 (1.85)
Melatonin	92	*5.8 (2.02)
Fiber or psyllium	33	†
Cranberry (pills, gencaps)	33	*1.8 (0.83)
Ginkgo biloba	24	†
Creatine	24	†
Ginseng	19	†
Soy supplements or isoflavones	15	†
DHEA ³	15	†

* Estimates preceded by an asterisk have a relative standard error of greater than 30% and less than or equal to 50% and do not meet the standard of reliability or precision.

† Estimates with a relative standard error greater than 50% are indicated with a dagger, but are not shown.

¹Respondents may have used more than one nonvitamin, nonmineral, natural product.

²The denominator used in the calculation of percentages was the number of children who used nonvitamin, nonmineral, natural products within the past 30 days, excluding persons with unknown information for usage of the specified nonvitamin, nonmineral, natural product.

³DHEA is dehydroepiandrosterone.

NOTE: Estimates were age adjusted using the projected 2000 U.S. population as the standard population using three age groups: 0–4 years, 5–11 years, and 12–17 years.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, 2007. Estimates are based on household interviews of a sample of the civilian, noninstitutionalized population.

Table 5. Frequencies and age-adjusted percentages of adults 18 years of age and over who used complementary and alternative medicine in the past 12 months, by selected diseases and conditions for which it was used: United States, 2007

Disease or condition ¹	Used CAM as treatment	
	Number in thousands	Percent ² (standard error)
Back pain or problem	14,325	17.1 (0.54)
Neck pain or problem	5,031	5.9 (0.33)
Joint pain or stiffness, or other joint condition	4,537	5.2 (0.27)
Arthritis	3,057	3.5 (0.23)
Other, specify	2,733	3.3 (0.23)
Anxiety	2,293	2.8 (0.23)
Cholesterol	1,827	2.1 (0.17)
Head or chest cold	1,693	2.0 (0.17)
Other musculoskeletal	1,498	1.8 (0.19)
Severe headache or migraine	1,359	1.6 (0.16)
Insomnia or trouble sleeping	1,191	1.4 (0.16)
Stress	1,124	1.3 (0.15)
Stomach or intestinal illness	974	1.2 (0.14)
Depression	962	1.2 (0.16)
Regular headaches	813	1.0 (0.15)
Hypertension	842	0.9 (0.12)
Fibromyalgia	755	0.8 (0.11)
Diabetes	650	0.7 (0.12)
Sprain or strain	605	0.7 (0.10)
Coronary heart disease	586	0.7 (0.10)

¹Respondents may have used more than one CAM therapy to treat a disease or condition, but were counted only once under each disease or condition treated. The questions about using a CAM therapy to treat a disease or condition were only asked of respondents who had used the therapy within the past 12 months. The exception to this is the questions about using nonvitamin, nonmineral, natural products to treat a disease or condition which were only asked of respondents who had used nonvitamin, nonmineral, natural products within the past 30 days.

²The denominator used in the calculation of percentages was the number of adults who used CAM within the past 12 months, excluding persons with unknown information about whether CAM was used to treat the specified condition.

NOTES: CAM is complementary and alternative medicine. Estimates are age adjusted using the projected 2000 U.S. population as the standard population using four age groups: 18–24 years, 25–44 years, 45–64 years, and 65 years and over.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, 2007. Estimates are based on household interviews of a sample of the civilian, noninstitutionalized population.

Table 6. Frequencies and age-adjusted percentages of children under 18 years of age who used complementary and alternative medicine in the past 12 months by selected diseases and conditions for which it was used: United States, 2007

Disease or condition ¹	Used CAM as treatment	
	Number in thousands	Percent ² (standard error)
Other, specify	625	8.3 (1.14)
Back or neck pain	705	6.7 (0.87)
Head or chest cold	515	6.6 (1.24)
Anxiety or stress	427	4.8 (0.87)
Other musculoskeletal	378	4.2 (0.83)
ADHD/ADD ³	237	2.5 (0.54)
Insomnia or trouble sleeping	158	1.8 (0.50)
Asthma	137	*1.6 (0.49)
Sinusitis	117	*1.5 (0.62)
Other allergies	114	*1.4 (0.46)
Influenza or pneumonia	123	†
Respiratory allergy	95	*1.3 (0.62)
Sore throat other than strep or tonsillitis	97	*1.1 (0.43)
Depression	110	1.0 (0.27)
Abdominal pain	75	*0.8 (0.30)

* Estimates preceded by an asterisk have a relative standard error of greater than 30% and less than or equal to 50% and do not meet the standard of reliability or precision.

† Estimates with a relative standard error greater than 50% are indicated with a dagger, but are not shown.

¹Respondents may have used more than one CAM therapy to treat a disease or condition, but were counted only once under each disease or condition treated. The questions about using a CAM therapy to treat a disease or condition were only asked of respondents who had used the therapy within the past 12 months. The exception to this is the questions about using nonvitamin, nonmineral, natural products to treat a disease or condition that were only asked of respondents who had used nonvitamin, nonmineral, natural products within the past 30 days.

²The denominator used in the calculation of percentages was the estimated number of children who used CAM within the past 12 months, excluding persons with unknown information about whether CAM was used to treat the specified condition.

³ADHD is Attention Deficit Hyperactivity Disorder and ADD is Attention Deficit Disorder.

NOTES: CAM is complementary and alternative medicine. Estimates are age adjusted using the projected 2000 U.S. population as the standard population using three age groups: 0–4 years, 5–11 years, and 12–17 years.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, 2007. Estimates are based on household interviews of a sample of the civilian, noninstitutionalized population.

Table 7. Age-adjusted percentages of adults 18 years of age and over who used selected complementary and alternative medicine categories in the past 12 months, by selected characteristics: United States, 2007

Characteristic	Complementary and alternative medicine categories					
	All CAM ¹	Biologically based therapies ²	Mind-body therapies ³	Alternative medical systems ⁴	Energy healing therapy	Manipulative and body-based therapies ⁵
	Percents (standard errors)					
Total ^{6,7}	38.3 (0.50)	19.9 (0.39)	19.2 (0.38)	3.4 (0.16)	0.5 (0.06)	15.2 (0.34)
Sex ⁷						
Male	33.5 (0.63)	17.8 (0.50)	14.4 (0.44)	2.7 (0.18)	0.4 (0.08)	12.2 (0.39)
Female	42.8 (0.61)	21.9 (0.50)	23.8 (0.53)	4.2 (0.23)	0.7 (0.08)	18.1 (0.46)
Age						
18–29 years	36.3 (1.14)	15.9 (0.86)	21.3 (0.92)	3.2 (0.41)	*0.3 (0.10)	15.1 (0.85)
30–39 years	39.6 (0.96)	19.8 (0.77)	19.9 (0.81)	3.6 (0.34)	0.5 (0.11)	17.2 (0.70)
40–49 years	40.1 (0.97)	20.4 (0.79)	19.7 (0.81)	4.6 (0.38)	0.8 (0.21)	17.4 (0.69)
50–59 years	44.1 (1.14)	24.2 (0.92)	22.9 (1.00)	4.9 (0.40)	1.0 (0.16)	17.3 (0.78)
60–69 years	41.0 (1.21)	25.4 (1.07)	17.3 (0.88)	2.8 (0.34)	0.5 (0.14)	13.8 (0.80)
70–84 years	32.1 (1.11)	19.3 (0.92)	11.9 (0.69)	1.8 (0.31)	†	9.9 (0.70)
85 years and over	24.2 (2.32)	13.7 (1.89)	9.8 (1.58)	*1.9 (0.86)	†	7.0 (1.38)
Race and ethnicity ⁷						
Hispanic	23.7 (0.95)	11.8 (0.68)	10.6 (0.63)	3.0 (0.33)	*0.1 (0.03)	6.7 (0.50)
Non-Hispanic white, single race	43.1 (0.61)	22.7 (0.49)	21.4 (0.49)	3.7 (0.21)	0.7 (0.08)	18.7 (0.45)
Non-Hispanic black or African American, single race	25.5 (0.93)	12.3 (0.72)	14.8 (0.76)	1.4 (0.24)	*0.2 (0.07)	6.5 (0.52)
Non-Hispanic American Indian or Alaska Native, single race	50.3 (4.63)	23.7 (4.09)	23.3 (5.68)	*13.2 (5.84)	–	13.4 (3.12)
Non-Hispanic Asian, single race	39.9 (2.07)	19.6 (1.62)	23.4 (1.42)	5.4 (0.79)	*0.3 (0.14)	11.1 (1.32)
Non-Hispanic Native Hawaiian or Other Pacific Islander, single race	43.2 (12.60)	*26.1 (11.79)	*24.5 (12.01)	†	†	†
Hispanic or Latino origin ⁷						
Puerto Rican	29.7 (2.95)	14.2 (2.36)	16.8 (2.42)	*2.4 (0.80)	†	7.6 (1.48)
Mexican	18.2 (1.48)	8.9 (1.03)	6.9 (0.95)	3.9 (0.71)	†	4.1 (0.63)
Mexican American	27.4 (2.05)	14.0 (1.59)	11.6 (1.43)	2.1 (0.57)	–	7.9 (1.08)
Cuban or Cuban American	22.9 (3.71)	11.2 (2.84)	14.1 (3.08)	†	–	8.5 (2.07)
Dominican (Republic)	28.2 (4.31)	12.3 (3.61)	18.5 (3.77)	†	–	*5.3 (2.15)
Central or South American	23.4 (2.15)	12.8 (1.79)	10.0 (1.36)	3.5 (0.93)	†	7.4 (1.23)
Education ⁸						
Less than high school	20.8 (0.90)	9.8 (0.64)	7.6 (0.56)	2.1 (0.36)	†	6.4 (0.58)
High School Graduate or GED ⁹ recipient	31.0 (0.85)	16.3 (0.60)	12.1 (0.53)	2.0 (0.22)	0.4 (0.10)	11.5 (0.58)
Some College-no degree	45.0 (1.08)	24.4 (0.94)	22.0 (0.84)	4.3 (0.43)	0.7 (0.14)	18.0 (0.85)
Associate of Arts Degree	47.2 (1.39)	24.9 (1.17)	24.3 (1.26)	3.6 (0.46)	*0.5 (0.17)	18.2 (1.00)
Bachelor or Arts or Science Degree	49.6 (1.05)	27.5 (0.96)	25.5 (0.85)	5.4 (0.42)	0.8 (0.13)	20.7 (0.84)
Masters, Doctorate, Professional Degree	55.4 (1.34)	30.1 (1.24)	34.2 (1.34)	6.1 (0.66)	1.2 (0.28)	23.6 (1.15)
Poverty status ^{7,10}						
Poor	28.9 (1.02)	13.7 (0.78)	16.5 (0.84)	3.2 (0.47)	*0.5 (0.16)	8.4 (0.60)
Near poor	30.9 (1.01)	15.6 (0.76)	16.0 (0.81)	2.6 (0.35)	0.5 (0.13)	10.1 (0.63)
Not poor	43.3 (0.64)	23.0 (0.52)	21.6 (0.50)	3.9 (0.21)	0.6 (0.08)	18.1 (0.45)
Health insurance ¹¹						
Under 65 years:						
Private	42.7 (0.65)	21.3 (0.49)	22.0 (0.53)	3.9 (0.22)	0.6 (0.09)	19.0 (0.51)
Public	30.6 (1.19)	14.9 (0.85)	18.7 (0.99)	2.6 (0.33)	*0.3 (0.11)	9.6 (0.70)
Uninsured	31.5 (0.97)	17.0 (0.76)	16.2 (0.78)	4.0 (0.41)	0.7 (0.14)	9.8 (0.68)
65 years and over:						
Private	37.1 (1.21)	23.4 (1.06)	14.2 (0.82)	2.0 (0.34)	†	11.7 (0.80)
Public	29.1 (1.30)	17.2 (1.11)	11.5 (0.84)	1.7 (0.36)	†	8.2 (0.78)
Uninsured	*11.1 (4.91)	†	†	–	–	–
Marital status ⁷						
Never married	36.0 (1.05)	18.6 (0.87)	20.8 (0.89)	3.8 (0.39)	0.8 (0.16)	13.5 (0.67)
Married	37.6 (0.71)	19.0 (0.50)	17.5 (0.55)	3.2 (0.20)	0.4 (0.07)	15.0 (0.49)
Cohabiting	38.1 (1.83)	21.0 (1.62)	20.7 (1.60)	4.1 (0.87)	1.1 (0.33)	15.8 (1.49)
Divorced or separated	38.5 (1.48)	20.4 (1.01)	20.3 (1.10)	2.9 (0.30)	0.7 (0.13)	16.4 (1.24)
Widowed	26.1 (2.98)	12.5 (1.81)	14.7 (2.10)	1.6 (0.39)	†	8.2 (2.13)

See footnotes at end of table.

Table 7. Age-adjusted percentages of adults 18 years of age and over who used selected complementary and alternative medicine categories in the past 12 months, by selected characteristics: United States, 2007—Con.

Characteristic	Complementary and alternative medicine categories					
	All CAM ¹	Biologically based therapies ²	Mind-body therapies ³	Alternative medical systems ⁴	Energy healing therapy	Manipulative and body-based therapies ⁵
Region ⁷						
Percents (standard errors)						
Northeast	38.0 (0.95)	18.2 (0.72)	21.1 (0.82)	3.8 (0.32)	0.8 (0.20)	15.0 (0.67)
Midwest	41.4 (1.08)	20.4 (0.76)	20.6 (0.81)	2.8 (0.29)	0.5 (0.10)	17.9 (0.87)
South	32.5 (0.84)	17.7 (0.68)	15.0 (0.59)	2.4 (0.23)	0.3 (0.07)	11.5 (0.48)
West	44.6 (1.02)	24.4 (0.88)	23.2 (0.85)	5.6 (0.43)	0.9 (0.12)	18.4 (0.68)
Leisure-time physical activity ^{7,12}						
Never or unable to engage in activity	23.6 (0.64)	11.5 (0.42)	9.8 (0.41)	2.2 (0.19)	0.2 (0.06)	8.5 (0.43)
Engage in some activity but less than regular	43.3 (0.80)	22.5 (0.68)	22.4 (0.64)	3.6 (0.28)	0.7 (0.11)	16.8 (0.57)
Engage in regular activity	51.5 (0.80)	28.1 (0.71)	27.5 (0.71)	4.8 (0.32)	0.8 (0.11)	21.7 (0.65)
Body weight status ^{7,13}						
Underweight	31.4 (2.97)	16.7 (2.40)	17.0 (2.17)	*3.4 (1.15)	—	8.6 (1.62)
Healthy weight	41.0 (0.71)	20.7 (0.60)	21.6 (0.58)	4.7 (0.29)	0.7 (0.10)	17.8 (0.54)
Overweight	37.3 (0.79)	19.0 (0.57)	18.4 (0.66)	2.7 (0.22)	0.5 (0.09)	14.6 (0.52)
Obese	37.6 (0.81)	21.2 (0.71)	17.8 (0.63)	2.9 (0.27)	0.5 (0.10)	13.3 (0.56)
Lifetime cigarette smoking status ^{7,14}						
Current smoker	35.6 (1.04)	17.0 (0.79)	19.4 (0.80)	2.4 (0.29)	0.5 (0.11)	12.8 (0.66)
Former smoker	48.1 (1.06)	26.8 (0.90)	24.7 (0.94)	4.8 (0.43)	0.9 (0.21)	19.2 (0.81)
Never smoker	36.0 (0.60)	18.6 (0.45)	17.8 (0.45)	3.3 (0.20)	0.5 (0.06)	14.8 (0.41)
Lifetime alcohol drinking status ^{7,15}						
Lifetime abstainer	23.5 (0.82)	11.1 (0.58)	11.0 (0.57)	2.2 (0.28)	0.3 (0.08)	7.5 (0.47)
Former drinker	37.6 (1.29)	19.3 (0.99)	19.8 (1.02)	3.2 (0.38)	*0.4 (0.15)	12.8 (0.83)
Current infrequent or light drinker	44.6 (0.70)	23.7 (0.60)	23.0 (0.56)	4.0 (0.25)	0.7 (0.10)	18.3 (0.51)
Current moderate or heavier drinker	45.4 (1.04)	24.2 (0.87)	22.3 (0.83)	3.8 (0.37)	0.7 (0.13)	19.3 (0.75)
Hospitalized in the last year ⁷						
Yes	42.1 (1.43)	20.2 (1.16)	23.7 (1.26)	3.4 (0.50)	*0.4 (0.14)	16.2 (1.10)
No	37.9 (0.51)	19.9 (0.40)	18.8 (0.39)	3.4 (0.16)	0.6 (0.06)	15.1 (0.34)
Number of health conditions ^{7,16}						
0 conditions	21.3 (0.93)	10.0 (0.68)	9.8 (0.72)	1.4 (0.22)	*0.1 (0.05)	7.5 (0.53)
1–2 conditions	33.3 (0.84)	16.5 (0.63)	16.2 (0.63)	2.2 (0.22)	0.2 (0.06)	12.5 (0.53)
3–5 conditions	42.3 (0.85)	22.8 (0.72)	19.5 (0.66)	3.9 (0.31)	0.7 (0.13)	18.1 (0.70)
6 or more conditions	53.8 (0.91)	28.4 (0.80)	30.6 (0.86)	5.7 (0.42)	1.1 (0.17)	22.1 (0.76)
Number of visits to a doctor in past 12 months ⁷						
0 visits	24.5 (0.94)	13.0 (0.67)	13.2 (0.73)	2.0 (0.26)	0.4 (0.11)	6.0 (0.43)
1 visit	32.3 (0.96)	16.8 (0.78)	14.7 (0.70)	2.7 (0.31)	0.3 (0.08)	10.7 (0.64)
2–3 visits	39.4 (0.86)	20.9 (0.72)	19.7 (0.69)	3.1 (0.28)	0.5 (0.10)	15.0 (0.60)
4–9 visits	47.2 (0.93)	25.1 (0.81)	23.8 (0.79)	4.2 (0.36)	0.7 (0.14)	20.6 (0.74)
10 or visits	53.4 (1.15)	25.3 (1.00)	28.8 (1.07)	6.7 (0.57)	1.2 (0.23)	28.3 (1.09)
Delayed conventional care because of worry about cost ⁷						
Yes	48.2 (1.38)	26.3 (1.15)	27.7 (1.29)	5.6 (0.56)	1.1 (0.18)	17.6 (1.02)
No	37.0 (0.51)	19.1 (0.39)	18.2 (0.39)	3.2 (0.16)	0.5 (0.06)	14.9 (0.36)
Did not receive conventional care because could not afford it ⁷						
Yes	46.1 (1.50)	24.8 (1.31)	26.3 (1.36)	4.9 (0.54)	1.1 (0.20)	16.7 (1.19)
No	37.5 (0.51)	19.4 (0.40)	18.5 (0.39)	3.3 (0.17)	0.5 (0.06)	15.0 (0.36)
Usual place for health care ⁷						
Yes	39.1 (0.53)	20.1 (0.41)	19.6 (0.41)	3.5 (0.17)	0.5 (0.06)	15.9 (0.38)
No	32.5 (1.23)	18.1 (1.01)	17.2 (0.91)	3.2 (0.37)	0.8 (0.20)	10.9 (0.70)

* Estimates preceded by an asterisk have a relative standard error of greater than 30% and less than or equal to 50% and do not meet the standard of reliability or precision.

† Estimates with a relative standard error greater than 50% are indicated with a dagger, but are not shown.

— Quantity zero.

¹All CAM includes acupuncture; ayurveda; homeopathic treatment; naturopathy; traditional healers, chelation therapy; nonvitamin, nonmineral, natural products; diet-based therapies; chiropractic or osteopathic manipulation; massage; movement therapies; biofeedback; meditation; guided imagery; progressive relaxation; deep breathing exercises; hypnosis; yoga; tai chi; qi gong; and energy healing therapy.²Biologically based therapies include chelation therapy; nonvitamin, nonmineral, natural products; and diet-based therapies.³Mind-body therapies include biofeedback; meditation; guided imagery; progressive relaxation; deep breathing exercises; hypnosis; yoga; tai chi; and qi gong.

⁴Alternative medical systems include acupuncture; ayurveda; homeopathic treatment; naturopathy; and traditional healers.

⁵Manipulative and body based therapies include chiropractic or osteopathic manipulation; massage; and movement therapies.

⁶Total includes other races and ethnicities not shown separately and persons with unknown education, poverty status, health insurance status, marital status, leisure-time physical activity status, body weight status, lifetime smoking status, alcohol consumption status, hospitalization status, number of health conditions, number of doctor visits, delay of care due to cost, did not receive care due to cost, and usual place of care.

⁷Estimates are age adjusted using the projected 2000 U.S. population as the standard population using four age groups: 18–24 years, 25–44 years, 45–64 years, and 65 years and over.

⁸Education is shown only for persons 25 years and over. Estimates are age adjusted to the projected 2000 U.S. population as the standard population using three age groups: 25–44 years, 45–64 years, 65 years and over.

⁹GED is General Education Development high school equivalency diploma.

¹⁰Poverty status is based on family income and family size using the Census Bureau's poverty thresholds for 2006. "Poor" persons are defined as below the poverty threshold. "Near poor" persons have incomes of 100% to less than 200% of the poverty threshold. "Not poor" persons have incomes that are 200% of the poverty threshold or greater.

¹¹Classification of health insurance coverage is based on a hierarchy of mutually exclusive categories. Persons with more than one type of health insurance were assigned to the first appropriate category in the hierarchy. Persons under age 65 years and those age 65 years and over were classified separately because of the prominence of Medicare coverage in the older population. The category "Private" includes persons who had any type of private coverage either alone or in combination with other coverage. For example, for persons age 65 years and over, "Private" includes persons with only private or private in combination with Medicare. The category "Uninsured" includes persons who had no coverage as well as those who had only Indian Health Service coverage or had only a private plan that paid for one type of service such as accidents or dental care (see Definition of terms for more details). Estimates are age-adjusted to the projected 2000 U.S. population as the standard population using three age groups for persons under age 65 (18–24 years, 25–44 years, and 45–64 years), and two age groups for persons aged 65 years and over (65–74 years and 75 years and over).

¹²Leisure-time physical activity: "Never or unable to engage in activity" includes adults who did not engage in any sessions of light or moderate (causes light sweating or a slight to moderate increase in breathing or heart rate) or vigorous (causes heavy sweating or a large increase in breathing or heart rate) leisure-time physical activity of at least 10 minutes duration or were unable to perform leisure-time physical activity; "Some activity but less than regular" includes adults who engaged in at least one session of light or moderate or vigorous leisure-time physical activity of at least 10 minutes duration but did not meet the requirement for regular leisure-time physical activity; "Regular activity" includes adults who engaged in at least three sessions per week of vigorous leisure-time physical activity lasting at least 20 minutes in duration or at least five sessions per week of light or moderate leisure-time physical activity lasting at least 30 minutes in duration.

¹³Body weight status was based on Body Mass Index (BMI) calculated using self-reported height and weight. The formula for BMI is kilograms/meters². "Underweight" is defined as a BMI of less than 18.5; "Healthy weight" is defined as a BMI of greater than or equal to 18.5 and less than 25; "Overweight", is defined as a BMI of greater than or equal to 25 and less than 30; and "Obese" is defined as a BMI of greater than or equal to 30.

¹⁴Lifetime cigarette smoking status: "Current smokers" have smoked at least 100 cigarettes in their lifetime and currently smoke every day or some days; "Former smokers" have smoked at least 100 cigarettes in their lifetime, but currently do not smoke at all; "Never smokers" have never smoked at all or smoked less than 100 cigarettes in their lifetime.

¹⁵Lifetime alcohol drinking status: "Lifetime abstainers" had less than 12 drinks in their lifetime; "Former drinkers" had at least 12 drinks in their lifetime, but none in past year; "Current light or infrequent drinkers" had at least 12 drinks in their lifetime and 1 or more drinks in the past year, and drank 3 drinks or fewer per week, on average; "Current moderate or heavier drinkers" had 12 or more drinks in their lifetime, drank alcohol in the past year, and drank more than 3 drinks per week, on average.

¹⁶Number of health conditions is a count variable of approximately 55 chronic and nonchronic conditions found in the 2007 NHIS. These include conditions of the cardio-pulmonary, respiratory, musculoskeletal, gastrointestinal, neurological, and endocrine systems.

NOTES: CAM is complementary and alternative medicine. The denominators for statistics shown exclude persons with unknown CAM information.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, 2007. Estimates are based on household interviews of a sample of the civilian, noninstitutionalized population.

Table 8. Age-adjusted percentages of children under 18 years of age who used selected complementary and alternative medicine categories in the past 12 months, by selected characteristics: United States, 2007—Con.

Characteristic	Complementary and alternative medicine categories					
	All CAM ¹	Biologically based therapies ²	Mind-body therapies ³	Alternative medical systems ⁴	Energy healing therapy	Manipulative and body-based therapies ⁵
	Percents (standard errors)					
Total ^{6,7}	11.8 (0.46)	4.7 (0.34)	4.3 (0.28)	2.6 (0.29)	0.2 (0.05)	3.7 (0.27)
Sex ⁷						
Male	11.0 (0.66)	4.8 (0.53)	3.8 (0.40)	2.4 (0.41)	*0.2 (0.06)	3.2 (0.35)
Female.	12.6 (0.61)	4.6 (0.40)	4.9 (0.38)	2.8 (0.36)	*0.3 (0.08)	4.2 (0.39)
Age						
0–4 years	7.6 (0.62)	3.2 (0.42)	1.9 (0.32)	2.9 (0.40)	*0.3 (0.13)	2.1 (0.41)
5–11 years	10.7 (0.74)	4.3 (0.49)	3.9 (0.40)	2.5 (0.45)	*0.2 (0.09)	2.8 (0.39)
12–17 years.	16.4 (0.90)	6.3 (0.63)	6.8 (0.64)	2.5 (0.44)	*0.2 (0.07)	5.9 (0.56)
Race ⁷						
White, single race	12.8 (0.56)	5.2 (0.41)	4.4 (0.33)	2.8 (0.35)	*0.2 (0.06)	4.4 (0.34)
Black or African American, single race	5.9 (0.75)	1.7 (0.37)	3.0 (0.58)	1.4 (0.38)	†	*0.8 (0.26)
Hispanic or Latino origin ⁷						
Hispanic	7.9 (0.73)	2.8 (0.45)	2.8 (0.41)	2.5 (0.47)	*0.3 (0.13)	1.9 (0.37)
Non-Hispanic	12.8 (0.56)	5.2 (0.41)	4.7 (0.33)	2.7 (0.33)	0.2 (0.06)	4.1 (0.33)
Family structure ⁷						
Mother and father	12.7 (0.59)	5.2 (0.45)	4.3 (0.33)	2.7 (0.34)	*0.2 (0.06)	4.2 (0.35)
Mother, no father.	9.6 (0.80)	3.3 (0.47)	4.8 (0.61)	2.2 (0.43)	*0.5 (0.17)	2.5 (0.38)
Parent's education ⁷						
Less than high school diploma	4.8 (0.69)	1.7 (0.45)	1.9 (0.42)	*1.5 (0.46)	†	*1.3 (0.38)
High school diploma or GED ⁸	8.0 (0.73)	2.8 (0.46)	2.3 (0.39)	1.7 (0.43)	†	2.5 (0.41)
More than high school	14.7 (0.66)	6.1 (0.49)	5.6 (0.41)	3.2 (0.40)	0.2 (0.06)	4.6 (0.39)
Poverty status ^{7,9}						
Poor	7.0 (0.81)	2.2 (0.44)	3.2 (0.51)	2.2 (0.54)	†	1.4 (0.39)
Near poor	9.3 (0.91)	4.1 (0.64)	2.4 (0.54)	2.2 (0.48)	†	2.7 (0.47)
Not poor	14.6 (0.69)	6.0 (0.52)	5.7 (0.42)	2.9 (0.41)	*0.3 (0.09)	4.9 (0.40)

See footnotes at end of table.

Table 8. Age-adjusted percentages of children under 18 years of age who used selected complementary and alternative medicine categories in the past 12 months, by selected characteristics: United States, 2007—Con.

Characteristic	Complementary and alternative medicine categories					
	All CAM ¹	Biologically based therapies ²	Mind-body therapies ³	Alternative medical systems ⁴	Energy healing therapy	Manipulative and body-based therapies ⁵
Health insurance^{7,10}						
Private	13.7 (0.63)	5.4 (0.44)	5.1 (0.38)	2.6 (0.35)	*0.2 (0.07)	4.7 (0.40)
Public	8.6 (0.72)	3.1 (0.42)	3.4 (0.48)	2.5 (0.40)	*0.2 (0.09)	2.0 (0.31)
Uninsured	10.2 (1.33)	5.3 (1.16)	2.6 (0.51)	3.9 (1.09)	†	2.4 (0.73)
Region⁷						
Northeast	12.6 (1.13)	4.2 (0.66)	5.4 (0.72)	2.0 (0.50)	†	4.0 (0.71)
Midwest	13.6 (1.05)	4.9 (0.62)	4.5 (0.65)	2.3 (0.62)	†	4.5 (0.65)
South	8.6 (0.65)	3.8 (0.48)	2.9 (0.34)	2.0 (0.36)	*0.3 (0.11)	2.4 (0.32)
West	14.4 (1.00)	6.4 (0.93)	5.5 (0.64)	4.4 (0.82)	*0.3 (0.11)	4.5 (0.59)
Number of health conditions^{7,11}						
0 conditions	4.0 (0.71)	*1.3 (0.51)	*1.1 (0.48)	*1.9 (0.62)	†	*1.4 (0.50)
1–2 conditions	8.5 (0.82)	2.9 (0.59)	3.2 (0.56)	1.5 (0.33)	†	2.3 (0.38)
3–5 conditions	14.1 (1.20)	6.0 (0.69)	4.8 (0.69)	2.9 (0.69)	*0.3 (0.15)	4.2 (0.77)
6 or more conditions	23.8 (2.09)	8.8 (1.36)	10.2 (1.11)	5.6 (1.43)	*0.2 (0.09)	5.4 (0.64)
Number of doctor visits in past 12 months⁷						
0 visits	7.7 (1.52)	*4.9 (1.49)	*2.5 (0.79)	*2.6 (1.30)	†	*1.9 (0.76)
1 visit	7.8 (0.78)	3.6 (0.52)	2.1 (0.39)	1.6 (0.40)	†	1.9 (0.39)
2–3 visits	11.1 (0.67)	3.4 (0.37)	4.5 (0.46)	2.6 (0.39)	*0.2 (0.10)	3.1 (0.37)
4–9 visits	15.0 (1.04)	6.0 (0.69)	5.0 (0.60)	2.5 (0.41)	*0.2 (0.08)	5.6 (0.67)
10 or more visits	28.4 (2.38)	12.0 (1.67)	12.9 (1.88)	6.3 (1.27)	†	10.0 (1.63)
Delayed conventional care because of worry about cost⁷						
Yes	16.9 (2.72)	7.3 (1.83)	6.6 (1.75)	*5.0 (1.86)	†	*6.2 (1.98)
No	11.6 (0.47)	4.6 (0.35)	4.2 (0.29)	2.6 (0.29)	0.2 (0.05)	3.6 (0.27)
Did not receive conventional care because could not afford it⁷						
Yes	19.4 (3.59)	*8.9 (2.70)	10.4 (2.94)	*5.4 (2.45)	†	*8.0 (2.85)
No	11.6 (0.47)	4.6 (0.34)	4.2 (0.28)	2.6 (0.28)	0.2 (0.05)	3.6 (0.27)
Usual place of care⁷						
Yes	12.0 (0.49)	4.7 (0.35)	4.5 (0.30)	2.6 (0.30)	0.2 (0.05)	3.7 (0.29)
No	9.1 (1.57)	4.6 (1.07)	*1.5 (0.46)	*2.5 (1.21)	–	3.1 (0.90)
Current health status⁷						
Excellent or very good	12.0 (0.50)	4.5 (0.35)	4.4 (0.32)	2.4 (0.27)	0.2 (0.05)	3.8 (0.31)
Good	10.3 (1.01)	5.4 (0.82)	3.3 (0.57)	3.3 (0.72)	†	2.7 (0.49)
Fair or poor	15.4 (3.23)	*6.4 (2.51)	8.5 (2.43)	*5.2 (2.00)	†	*4.8 (2.11)
Family member reporting on child uses CAM⁷						
Parent uses CAM	23.9 (1.37)	10.3 (1.10)	9.8 (0.92)	4.2 (0.72)	*0.4 (0.17)	7.5 (0.82)
Parent does not use CAM	5.1 (0.57)	1.3 (0.22)	1.6 (0.38)	1.7 (0.34)	†	1.1 (0.25)
Relative other than parent or non-relative uses CAM	16.8 (4.34)	*8.5 (3.34)	*10.1 (3.29)	†	†	*5.5 (2.47)
Relative other than parent or non-relative does not use CAM	3.8 (1.13)	†	*1.1 (0.53)	†	†	†

* Estimates preceded by an asterisk have a relative standard error of greater than 30% and less than or equal to 50% and do not meet the standard of reliability or precision.

¹ Estimates with a relative standard error greater than 50% are indicated with a dagger, but are not shown.

– Quantity zero.

¹ All CAM includes acupuncture; ayurveda; homeopathic treatment; naturopathy; traditional healers, chelation therapy; nonvitamin, nonmineral, natural products; diet-based therapies; chiropractic or osteopathic manipulation; massage; movement therapies; biofeedback; meditation; guided imagery; progressive relaxation; deep breathing exercises; hypnosis; yoga; tai chi; qi gong; and energy healing therapy.

² Biologically based therapies include chelation therapy; nonvitamin, nonmineral, natural products; and diet-based therapies.

³ Mind-body therapies include biofeedback; meditation; guided imagery; progressive relaxation; deep breathing exercises; hypnosis; yoga; tai chi; and qi gong.

⁴ Alternative medical systems include acupuncture; ayurveda; homeopathic treatment; naturopathy; and traditional healers.

⁵ Manipulative and body based therapies include chiropractic or osteopathic manipulation; massage; and movement therapies.

⁶ Total includes other races and ethnicities not shown separately and persons with unknown poverty status, health insurance status, and number of doctor visits.

⁷ Estimates are age adjusted using the projected 2000 U.S. population as the standard population using three age groups: 0–4 years, 5–11 years, 12–17 years.

⁸ GED is General Education Development high school equivalency diploma.

⁹ Poverty status is based on family income and family size using the Census Bureau's poverty thresholds for 2006. "Poor" persons are defined as below the poverty threshold. "Near poor" persons have incomes of 100% to less than 200% of the poverty threshold. "Not poor" persons have incomes that are 200% of the poverty threshold or greater.

¹⁰ Classification of health insurance coverage is based on a hierarchy of mutually exclusive categories. Persons with more than one type of health insurance were assigned to the first appropriate category in the hierarchy. The category "Uninsured" includes persons who had no coverage as well as those who had only Indian Health Service coverage or had only a private plan that paid for one type of service such as accidents or dental care (see Definition of terms for more details).

¹¹ Number of health conditions is a count variable of approximately 55 chronic and nonchronic conditions found in the 2007 NHIS. These include conditions of the cardio-pulmonary, respiratory, musculoskeletal, gastrointestinal, neurological, and endocrine systems.

NOTES: CAM is complementary and alternative medicine. The denominators for statistics shown exclude persons with unknown CAM information.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, 2007. Estimates are based on household interviews of a sample of the civilian, noninstitutionalized population.

Technical Notes

Sample design

The National Health Interview Survey (NHIS) is a cross-sectional household interview survey of the U.S. civilian noninstitutionalized population. Data are collected continuously throughout the year in all 50 states and the District of Columbia. The NHIS uses a multistage, clustered sample design to produce national estimates for a variety of health indicators. Information on basic health topics is collected for all household members, if necessary by proxy from one adult family member. Additional information is collected for one randomly selected adult and one randomly selected child in each family. Self-response is required for the Sample Adult questionnaire except in rare cases where sample adults are physically or mentally incapable of responding for themselves. Interviews are conducted in the home using a computer-assisted personal interview (CAPI), with telephone interviewing permitted for follow-up, if necessary.

Starting in 2006, the sample design included Asian persons in the oversampling of minority populations in the NHIS; previously, only households with black and Hispanic persons were oversampled. The sample adult selection process was also revised in 2006 so that when elderly black, Hispanic, or Asian persons aged 65 years or older were present, they had an increased chance of being selected as the sample adult.

Response rates

In 2007, NHIS interviews were completed in 29,266 households, which yielded 75,764 persons in 29,915 families; the household response rate was 87.1%. The Sample Adult questionnaire was completed by 23,393 persons aged 18 years and over, and the Sample Child questionnaire was completed for 9,417 children. The final response rates (which takes into account household and family nonresponse) for the 2007 sample adult and sample child files were 67.8% and 76.5%, respectively. Procedures used in

calculating response rates are described in detail in Appendix I of the Survey Description Document of the NHIS data files (16).

Item nonresponse

In 2007, item nonresponse for each of the sociodemographic indicators shown in this report was about 3% or less, with the exception of poverty status, which is based on detailed family income as ascertained in the family component of the questionnaire. Item nonresponse for the poverty indicator was 18%. Item nonresponse for the health behavior, health care, conditions, and other health related items was about 5.5% or less. For the 2007 complementary and alternative medicine items, nonresponse ranged from 0.0% to 8.1%, with nonresponse for most items being 3.0% or less. For the 2002 complementary and alternative medicine items, nonresponse ranged from 1.7% to 3.2%. The denominators for statistics shown in the tables exclude persons with unknown complementary and alternative medicine information for a given table. The denominators for statistics shown in [Tables 7 and 8](#) exclude persons with unknown sociodemographic characteristics, health behavior items, and hospitalization during the past year and are not shown separately, but counts for these persons are included in the total. Among the 23,393 interviewed sample adult respondents in the 2007 NHIS, 610 adults were missing data for all the complementary and alternative medicine items. Among the 9,417 sample children in the 2007 NHIS, 108 children were missing data for all the complementary and alternative medicine items.

Age adjustment

Data shown in this report were age adjusted using the projected 2000 U.S. population provided by the U.S. Census Bureau as the standard population (18,19). Age adjustment was used to allow comparison among various population subgroups that have different age distributions. This is particularly important for demographic

characteristics such as race and ethnicity, education, and marital status. It is also helpful for other characteristics. The following age groups were used for age adjustment: 0–4 years, 5–11 years, 12–17 years, 18–24 years, 25–44 years, 45–64 years, and 65 years and over (Table II). Estimates for education and health insurance coverage are restricted to certain age groups and are, therefore, adjusted accordingly.

Estimates were calculated using software for statistical analysis of correlated data (SUDAAN) (17). The SUDAAN procedure PROC DESCRIPT was used to produce age-adjusted percents and their standard errors.

Tests of significance

Statistical tests performed to assess significance of differences in the estimates were two-tailed with no adjustments for multiple comparisons. The test statistic used to determine statistical significance of differences between two percentages was

$$Z = \frac{|X_a - X_b|}{\sqrt{S_a^2 + S_b^2}}$$

where X_a and X_b are the two percentages being compared, and S_a and S_b are the standard errors of those percentages. The critical value used for two-sided tests at the 0.05 level of significance was 1.96.

Relative standard error

Estimates with a relative standard error of more than 30% but less than or equal to 50% are identified with an asterisk. Estimates with a relative standard error of greater than 50% are indicated with a dagger (†) and are not shown. The relative standard errors are calculated as follows:

Relative standard error (as a percentage) = (SE/Est) 100,

where SE is the standard error of the estimate, and Est is the estimate.

Definitions of terms

Demographic terms

Age—The age recorded for each person is the age at his or her last birthday.

Education—The categories of education are based on the years of school completed or highest degree obtained. Only years completed in a school that advances a person toward an elementary or high school diploma, General Educational Development high school equivalency diploma (GED), college, university, or professional degree are included. Education in other schools or home schooling is counted only if the credits are accepted in a regular school system.

Health insurance coverage—NHIS respondents were asked about their health insurance coverage at the time of the interview. Respondents reported whether they were covered by private insurance (obtained through the employer or workplace, purchased directly, or through a local or community program), Medicare, Medigap, (supplemental Medicare coverage), Medicaid, State Children's Health Insurance Program (CHIP), Indian Health Service (IHS), military coverage (including VA, TRICARE, or CHAMP-VA), a state-sponsored health plan, another government program, or any single service plans. This information was used to form a health insurance hierarchy that consisted of three mutually exclusive categories. Persons with more than one type of health insurance were assigned to the first appropriate category in the following hierarchy: private coverage, public coverage (includes persons with Medicare, Medigap, Medicaid, SCHIP, military coverage, a state-sponsored health plan, or another government program), and uninsured (also includes persons who are only covered by IHS or only have single service plans).

Hispanic or Latino origin—Hispanic or Latino origin includes persons of Mexican, Puerto Rican, Cuban, Central and South American, or Spanish origins. Persons of Hispanic or Latino origin may be of any race.

Marital status—Respondents were asked to choose a marital status category most appropriate for their marital situation. In some cases, persons reporting their marital status as "married" may have been living in common-law marital unions.

Alternatively, these individuals could have identified their marital status as "living with partner." Adults who were living with a partner were considered to be members of the same family (as if married) and are categorized as "cohabiting." The distinction between "married" and "living with partner" was made by the respondent.

Poverty status—Poverty status is based on family income and family size using the U.S. Census Bureau's poverty thresholds. "Poor" persons are defined as those with family incomes below the poverty threshold. "Near poor" persons have family incomes of 100% to less than 200% of the poverty threshold, and "not poor" persons have family incomes that are 200% of the poverty threshold or greater.

Race—The 1997 Office of Management and Budget (OMB) federal guidelines (46) for reporting race require that persons of "single race" be distinguished from persons of "multiple race." "Single race" refers to persons who indicated only a single race group. Estimates for the smaller subcategories of single race persons and multiple race combinations can only be reported to the extent that the estimates meet the requirements for confidentiality and statistical reliability. In this report, five categories are shown for single race individuals (white, black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Other Pacific Islander). Other subcategories of single race persons and multiple race persons are not shown due to statistical unreliability as measured by the relative standard errors of the estimates. In this report, persons of a given race may be either Hispanic or non-Hispanic.

The text in this report uses shorter versions of the new OMB race terms for conciseness and the tables use the complete terms. For example, the category "black or African American, single race" in the tables are referred to as "black" in the text.

Region—In the geographic classification of the U.S. population, states are grouped into four regions used by the U.S. Census Bureau:

<i>Region</i>	<i>States included</i>
Northeast	Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, and Pennsylvania;
Midwest	Ohio, Illinois, Indiana, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Kansas, and Nebraska;
South	Delaware, Maryland, District of Columbia, West Virginia, Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Oklahoma, Arkansas, and Texas;
West	Washington, Oregon, California, Nevada, New Mexico, Arizona, Idaho, Utah, Colorado, Montana, Wyoming, Alaska, and Hawaii.

Health behavior terms

Lifetime alcohol drinking status

Lifetime abstainer—Adults who had fewer than 12 drinks in their entire lifetime.

Former drinker—Adults who had 12 drinks or more in their lifetime, but had no drinks in the past year.

Current infrequent or light drinker—Adults who had at least 12 drinks in their lifetime and 1–11 drinks in the past year (infrequent) or 3 drinks or fewer per week, on average (light).

Current moderate or heavier drinker—Adults who had at least 12 drinks in their lifetime and more than 3 drinks per week up to 14 drinks per week (on average) for men and more than 3 drinks per week up to 7 drinks per week (on average) for women were moderate drinkers. Adults who had at least 12 drinks in their lifetime and more than 14 drinks per week (on average) for men and more than 7 drinks per week (on average) for women were heavier drinkers.

Body weight status—Body weight status is based on body mass index (BMI), which is calculated from self-reported height and weight. BMI is calculated as weight divided by height² using metric units (i.e., kilograms/meters²).

Underweight—Adults with a BMI of less than 18.5.

Healthy weight—Adults with a BMI of at least 18.5, but less than 25.

Overweight but not obese—Adults with a BMI of at least 25, but less than 30.

Obese—Adults with a BMI of 30 or more.

Leisure-time physical activity

Inactive—Did not engage in any sessions of light or moderate (causes light sweating or a slight to moderate increase in breathing or heart rate) or vigorous (causes heavy sweating or a large increase in breathing or heart rate) leisure-time physical activity of at least 10 minutes duration or were unable to perform leisure-time physical activity.

Some activity but less than regular—Engaging in light or moderate leisure-time physical activities that cause light sweating or a slight to moderate increase in breathing or heart rate and last 10–29 minutes each time or are done less than five times per week, or engaging in vigorous leisure-time physical activities that cause heavy sweating or large increases in breathing or heart rate and are done 10–19 minutes each time and/or less than three times per week.

Regular activity—Engaging in light or moderate leisure-time physical activities that cause light sweating or a slight to moderate increase in breathing or heart rate and occur five or more times per week for at least 30 minutes each time, and/or engaging in vigorous leisure-time physical activities that cause heavy sweating or large increases in breathing or heart rate and occur three or more times per week for at least 20 minutes each time.

Lifetime cigarette smoking status

Current—Adults who have smoked at least 100 cigarettes in their lifetime

and currently smoke cigarettes every day or some days.

Former—Adults who have smoked at least 100 cigarettes in their lifetime but currently do not smoke at all.

Never—Adults who never smoked a cigarette or who smoked fewer than 100 cigarettes in their entire lifetime.

Health care utilization terms

Usual place for health care—Usual place of health care was based on a question that asked whether respondents had a place that they usually went to when they were sick or needed advice about their health. These places include a walk-in clinic, doctor's office, clinic, health center, health maintenance organization, hospital emergency room or outpatient clinic, or a military or VA health care facility.

Conditions—Condition is a general term that includes any specific illness (physical or mental) or injury. All data in the 2007 Sample Adult component are self-reported, and most questions ask whether a condition was diagnosed by a doctor or a health professional. The reference periods for the conditions vary. There are four basic reference periods: ever, past 12 months, past 30 days, and currently.

Number of visits to a doctor in the past 12 months—This is the number of visits to a doctor's office, clinic, or other place that the respondent has made in the past 12 months regarding his or her own personal health. Overnight hospital stays, hospital emergency room visits, home visits and telephone calls are excluded.

Overnight hospital stay—An overnight hospital stay is a measure of the number of times a person was hospitalized in the previous 12 months. Visits to a hospital emergency room that did not result in admission to the hospital are not included. Overnight hospital stays for the birth of a child are counted for both the mother and the child.

Terms related to complementary and alternative medicine

Acupuncture—Acupuncture describes a family of procedures involving stimulation of anatomical points on the body by a variety of techniques. American practices of acupuncture incorporate medical traditions from China, Japan, Korea, and other countries. The acupuncture technique that has been most studied scientifically involves penetrating the skin with thin, solid, metallic needles that are manipulated by the hands or by electrical stimulation.

Alexander technique—Alexander technique is a movement therapy that uses guidance and education on ways to improve posture and movement. The intent is to teach a person how to use muscles more efficiently in order to improve the overall functioning of the body. Examples of the Alexander technique as CAM are using it to treat low-back pain and the symptoms of Parkinson's disease.

Alternative provider or practitioner—Someone who is knowledgeable about a specific alternative health practice. This person provides care or gives advice about its use, and usually receives payment for his or her services.

For some practices, the provider may have received formalized training and has been certified by a licensing board or related professional association. For example, a practitioner of biofeedback (biofeedback therapist) usually has received training in psychology and physiology and may be certified by the Biofeedback Certification Institute of America.

Atkins diet—This diet emphasizes a drastic reduction in the daily intake of carbohydrates (40 grams or less), countered by an increase in protein and fat.

Ayurveda—Ayurveda is a system of medicine that originated in India several thousand years ago. In the United States, Ayurveda is considered a type of CAM and a whole medical system. As with other such systems, it is based on theories of health and illness and on

ways to prevent, manage, or treat health problems. Ayurveda aims to integrate and balance the body, mind, and spirit (thus, some view it as “holistic”). This balance is believed to lead to contentment and health and to help prevent illness. However, Ayurveda also proposes treatments for specific health problems, whether they are physical or mental. A chief aim of Ayurvedic practices is to cleanse the body of substances that can cause disease, and this is believed to help reestablish harmony and balance.

Biofeedback—Biofeedback uses simple electronic devices to teach clients how to consciously regulate bodily functions, such as breathing, heart rate, and blood pressure, in order to improve overall health. Biofeedback is used to reduce stress, eliminate headaches, recondition injured muscles, control asthma attacks, and relieve pain.

Botanica—A Botanica is a traditional healer who supplies healing products, sometimes associated with spiritual interventions.

Chelation therapy—Chelation therapy is a chemical process in which a substance is used to bind molecules, such as metals or minerals, and hold them tightly so that they can be removed from a system, such as the body. In medicine, chelation has been scientifically proven to rid the body of excess or toxic metals. For example, a person who has lead poisoning may be given chelation therapy in order to bind and remove excess lead from the body before it can cause damage.

Chiropractic care—This care involves the adjustment of the spine and joints to influence the body’s nervous system and natural defense mechanisms to alleviate pain and improve general health. It is primarily used to treat back problems, headaches, nerve inflammation, muscle spasms, and other injuries and traumas.

Chiropractic manipulation—Chiropractic manipulation is a form of health care that focuses on the relationship between the body’s structure, primarily of the spine, and function. Doctors of chiropractic, who are also called chiropractors or chiropractic physicians, use a type of

hands-on therapy called manipulation (or adjustment) as their core clinical procedure.

Complementary and alternative medicine (CAM)—Refers to therapies not usually taught in U.S. medical schools or generally available in U.S. hospitals. They include a broad range of practices and beliefs such as acupuncture, chiropractic care, relaxation techniques, massage therapy, and herbal remedies. They are defined by the National Center for Complementary and Alternative Medicine as a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine.

Curandero—A Curandero is a type of traditional folk healer. Originally found in Latin America, Curanderos specialize in treating illness through the use of supernatural forces, herbal remedies, and other natural medicines.

Deep breathing—Deep breathing involves slow and deep inhalation through the nose, usually to a count of 10, followed by slow and complete exhalation for a similar count. The process may be repeated 5 to 10 times, several times a day.

Energy healing therapy—Energy healing therapy involves the channeling of healing energy through the hands of a practitioner into the client’s body to restore a normal energy balance and, therefore, health. Energy healing therapy has been used to treat a wide variety of ailments and health problems, and is often used in conjunction with other alternative and conventional medical treatments.

Espiritista—An Espiritista is a traditional healer who assesses a patient’s condition and recommends herbs or religious amulets in order to improve physical or mental health or to help overcome a personal problem.

Feldenkrais—Feldenkrais is a movement therapy that uses a method of education in physical coordination and movement. Practitioners use verbal guidance and light touch to teach the method through one-on-one lessons and group classes. The intent is to help the person become more aware of how the

body moves through space and to improve physical functioning.

Guided imagery—Guided imagery involves a series of relaxation techniques followed by the visualization of detailed images, usually calm and peaceful in nature. If used for treatment, the individual will visualize their body free of the specific problem or condition. Sessions are typically 20–30 minutes in length, and may be practiced several times a week.

Hierbero—A Hierbero or Yerbera is a traditional healer or practitioner with knowledge of the medicinal qualities of plants.

Homeopathy—Homeopathy is a system of medical practices based on the theory that any substance that can produce symptoms of disease or illness in a healthy person can cure those symptoms in a sick person. For example, someone suffering from insomnia may be given a homeopathic dose of coffee. Administered in diluted form, homeopathic remedies are derived from many natural sources—including plants, metals, and minerals.

Hypnosis—Hypnosis is an altered state of consciousness characterized by increased responsiveness to suggestion. The hypnotic state is attained by first relaxing the body, then shifting attention toward a narrow range of objects or ideas as suggested by the hypnotist or hypnotherapist. The procedure is used to effect positive changes and to treat numerous health conditions including ulcers, chronic pain, respiratory ailments, stress, and headaches.

Macrobiotic diet—A macrobiotic diet is low in fat, emphasizes whole grains and vegetables, and restricts the intake of fluids. Of particular importance is the consumption of fresh, nonprocessed foods.

Massage—Massage therapists manipulate muscle and connective tissue to enhance function of those tissues and promote relaxation and well-being.

Meditation—Meditation refers to a group of techniques, most of which started in Eastern religious or spiritual traditions. In meditation, a person learns to focus his attention and suspend the stream of thoughts that normally occupy the mind. This practice is believed to

result in a state of greater physical relaxation, mental calmness, and psychological balance. Practicing meditation can change how a person relates to the flow of emotions and thoughts in the mind.

Native American Healer or Medicine Man—A Native American Healer or Medicine Man is a traditional healer who uses information from the “spirit world” in order to benefit the community. People see Native American healers for a variety of reasons, especially to find relief or a cure from illness or to find spiritual guidance.

Naturopathy—Naturopathy is an alternative medical system. Naturopathic medicine proposes that there is a healing power in the body that establishes, maintains, and restores health. Practitioners work with the patient with a goal of supporting this power through treatments such as nutrition and lifestyle counseling, dietary supplements, medicinal plants, exercise, homeopathy, and treatments from traditional Chinese medicine.

Nonvitamin, nonmineral, natural products—Nonvitamin, nonmineral, natural products are taken by mouth and contain a dietary ingredient intended to supplement the diet other than vitamins and minerals. Examples include herbs or herbal medicine (as single herbs or mixtures), other botanical products such as soy or flax products, and dietary substances such as enzymes and glandulars. Among the most popular are echinacea, ginkgo biloba, ginseng, feverfew, garlic, kava kava, and saw palmetto. Garlic, for example, has been used to treat fevers, sore throats, digestive ailments, hardening of the arteries, and other health problems and conditions.

Ornish diet—The Ornish diet is a high fiber, low-fat, vegetarian diet that promotes weight loss and health by restricting what one eats, not by restricting the intake of calories. Fruits, beans, grains, and vegetables can be eaten at all meals, while nonfat dairy products such as skim milk, nonfat cheeses, and egg whites are to be consumed in moderation. Products such as oils, avocados, nuts and seeds, and meats of all kinds are avoided.

Osteopathic manipulation—Osteopathic manipulation is a full-body system of hands-on techniques to alleviate pain, restore function, and promote health and well-being.

Pilates—Pilates is a movement therapy that uses a method of physical exercise to strengthen and build control of muscles, especially those used for posture. Awareness of breathing and precise control of movements are integral components of Pilates. Special equipment, if available, is often used.

Pritikin diet—While meat is allowed, the Pritikin diet (or Pritikin Principle) is low-fat and emphasizes the consumption of foods with a large volume of fiber and water, including many vegetables, fruits, beans, and natural, unprocessed grains.

Progressive relaxation—Progressive relaxation is used to relieve tension and stress by systematically tensing and relaxing successive muscle groups.

Qi gong—Qi gong is an ancient Chinese discipline combining the use of gentle physical movements, mental focus, and deep breathing directed toward specific parts of the body. Performed in repetitions, the exercises are normally performed two or more times a week for 30 minutes at a time.

Reiki—Reiki is an energy medicine practice that originated in Japan. In Reiki, the practitioner places his hands on or near the person receiving treatment, with the intent to transmit ki, believed to be life-force energy.

Shaman—A Shaman is a traditional healer who is said to act as a medium between the invisible spiritual world and the physical world. Most gain knowledge through contact with the spiritual world and use the information to perform tasks such as divination, influencing natural events, and healing the sick or injured.

Sobador—A Sobador is a traditional healer who uses massage and rub techniques in order to treat patients.

South Beach diet—South Beach diet distinguishes between “good” and “bad” carbohydrates and fats. “Good” carbohydrates are those that are digested relatively slowly, and “bad” fats include saturated and trans fats. Although the program does not require one to count

calories or limit portions, dieters are encouraged to eat whole grain foods and an abundant amount of vegetables.

Tai chi—Tai chi is a mind-body practice that originated in China as a martial art. A person doing tai chi moves his body slowly and gently, while breathing deeply and meditating (tai chi is sometimes called “moving meditation”). Many practitioners believe that tai chi helps the flow throughout the body of a proposed vital energy called “qi.” A person practicing tai chi moves her body in a slow, relaxed, and graceful series of movements. One can practice on one’s own or in a group. The movements make up what are called forms (or routines).

Traditional healer—A Traditional healer is someone who employs any one of a number of ancient medical practices that are based on indigenous theories, beliefs, and experiences handed down from generation to generation. The methods employed by each type of Traditional healer have evolved to reflect the different philosophical backgrounds and cultural origins of the healer.

Trager Psychophysical Integration—Trager Psychophysical Integration is a movement therapy in which practitioners apply a series of gentle, rhythmic rocking movements to the joints. They also teach physical and mental self-care exercises to reinforce the proper movement of the body. The intent is to release physical tension and increase the body’s range of motion. An example of Trager Psychophysical Integration as CAM is using it to treat chronic headaches.

Vegetarian diets—Vegetarian diets are those totally devoid of meat, red or white. There are, however, numerous variations on the nonmeat theme. For example, some vegetarian diets are restricted to plant products only, while others may include eggs and dairy products. Another variation limits consumption to raw fruit, sometimes supplemented with nuts and vegetables. Finally, a number of vegetarian diets prohibit alcohol, sugar, caffeine, or processed foods.

Yerbera—A Yerbera or Hierbero is a practitioner with knowledge of the medicinal qualities of plants.

Yoga—Yoga combines breathing exercises, physical postures, and meditation to calm the nervous system and balance body, mind, and spirit. Usually performed in classes, sessions are conducted once a week or more and roughly last 45 minutes.

Zone diet—With the Zone diet, each meal consists of a small amount of low-fat protein, fats, and fiber-rich fruits and vegetables. The basic goal is to alter the body's metabolism by controlling the production of key hormones.

Complementary and alternative medicine questions

The 2007 National Health Interview Survey Sample Adult and Sample Child questionnaires contained supplementary questions on complementary and alternative medicine (CAM). In documentation, each question in the Sample Adult questionnaire is preceded by its question number, beginning with ALT. ALT is the acronym for the CAM section of the Sample Adult questionnaire. Each question in the Sample Child questionnaire is preceded by its question number, beginning with CAL. CAL is the acronym for the CAM section of the Sample Child questionnaire. Due to the unusually large number of questions that were used to produce the data used in this report and the complexity of the question skip patterns, the CAM questions have not been included with this report. The CAM questions in the Sample Adult and Sample Child questionnaires and information about other components of the NHIS are available from: <http://www.cdc.gov/nchs/nhis.htm>.

The 2002 National Health Interview Survey Sample Adult questionnaire contained questions on CAM. In documentation, the CAM question numbers begin with ALT, as described above for the 2007 NHIS.

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