

NATIONAL PROFILE OF COMPLEMENTARY AND ALTERNATIVE MEDICINE (CAM) USE FOR CHILDREN WITH PAIN-RELATED CONDITIONS OR PROBLEMS (0-17 years)

Data Source: 2007 National Health Interview Survey (NHIS) – Family File, Person File, Sample Child File, Child Complementary and Alternative Medicine (CAM) File: 9,417 sample children age 0-17 years representing 73.7 million US children. NHIS linked to the 2008 Medical Expenditures Panel Survey (MEPS).

CAM use definition includes 39 CAM modalities asked about in the 2007 NHIS, including vitamins/minerals used to treat specific conditions in past 30 days (Figure 1.2). The CAM modalities were grouped by groupings set forth by NCCAM¹ (due to small sample size energy healing therapy was combined with alternative medical systems) and based on ease of accessibility and need for practitioners.

Condition groups: The 59 chronic and non-chronic conditions asked about in the 2007 NHIS Sample Child Core were grouped together into clinically relevant groupings (Table 2.2). CAM use prevalence ranged from 16.1% to 26.6% across condition groups. The highest prevalence of CAM use is reported among children with pain-related conditions or problems.

DEFINING PAIN-RELATED CONDITIONS/PROBLEMS

Six health conditions or problems asked about in the 2007 NHIS were grouped together to specify children with some type of pain-related conditions or problems: (a) parent has ever been told by a health professional that child has **arthritis** and (b) parent report that child experienced **frequent or severe headache including migraines, recurring headache other than migraine, back or neck pain, abdominal pain, other chronic pain** in the past 12 months.

- Over **8.9 million** children in the US are estimated to experience at least one pain-related condition or problem (as defined above), which represents **12.1%** of children 0-17 years old.
- Over one third (34.2%) of children with pain-related conditions or problems experience at least one other pain-related conditions or problems.

Table A. Population Estimate and Prevalence of Pain-Related Conditions or Problems Reported in Sample Child Core and Related Co-morbidity, Data: 2007 NHIS

| Pain-related conditions or problems | Estimated child population | Weighted % | Among children with the condition/problem | |
|--------------------------------------------------------------|----------------------------|------------|-----------------------------------------------|--------------------------------------------------|
| | | | % with other pain-related conditions/problems | % with other non-pain related chronic conditions |
| Frequent or severe headache including migraines (3-17 years) | 3,260,624 | 5.3 | 63.2 | 87.0 |
| Abdominal pain | 3,659,102 | 5.0 | 40.4 | 86.3 |
| Recurring headache other than migraine (3-17 years) | 2,846,414 | 4.6 | 69.8 | 82.4 |
| Back or neck pain | 2,502,446 | 3.4 | 53.3 | 85.4 |
| Other chronic pain | 904,267 | 1.2 | 49.6 | 89.9 |
| Arthritis | 57,249 | 0.1 | 73.1 | 100 |

Non-pain related chronic conditions: anxiety, depression, DD/ADHD, phobia or fears, food or digestive allergies, frequent/repeated diarrhea or colitis, asthma, hay fever, respiratory allergies, lung or breathing problems other than asthma, allergies other than hay fever/respiratory/food/digestive/skin allergies, 3 or more ear infections, autism, cerebral palsy, Down syndrome, muscular dystrophy, mental retardation, speech problem, developmental delay, learning disability, seizure, other neurological problems, eczema or skin allergy, severe acne, cancer, congenital heart disease, cystic fibrosis, diabetes, other heart problems, fatigue or lack of energy, gum disease, anemia, sickle cell anemia, low birth weight, hearing problems, vision problems, recurring constipation, problem of being overweight, acid reflux or heartburn, menstrual problems, sleep problems, bed wetting.

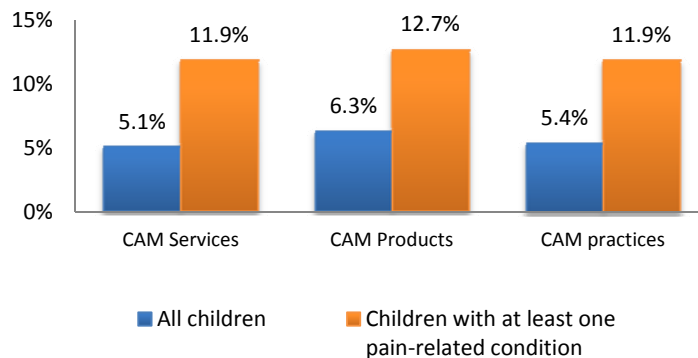
PART 1: CAM USE FOR CHILDREN WITH PAIN-RELATED CONDITIONS OR PROBLEMS

- Of the 12.1% children age 0-17 with **at least one** pain-related condition or problem, **26.6%** used any type of complementary and alternative medicine (CAM).
- Of the 12.9% of all children age 0-17 who used at least one type of CAM, 25.2% experienced one or more pain-related conditions or problems.

TYPES OF CAM MODALITIES USED BY CHILDREN

- Prevalence of CAM service, product and practice use is higher among children with pain-related conditions than all children (Figure 1.1). Over one-quarter (28.5%) of children who used one or more CAM service, 24.6% who used one or more CAM product and 26.8% who used one or more CAM practice experience at least one pain-related condition/problem in past 12 months/ever.

Figure 1.1. Use of CAM Types (Grouping A), All Children and Children with Pain-Related Conditions/Problems



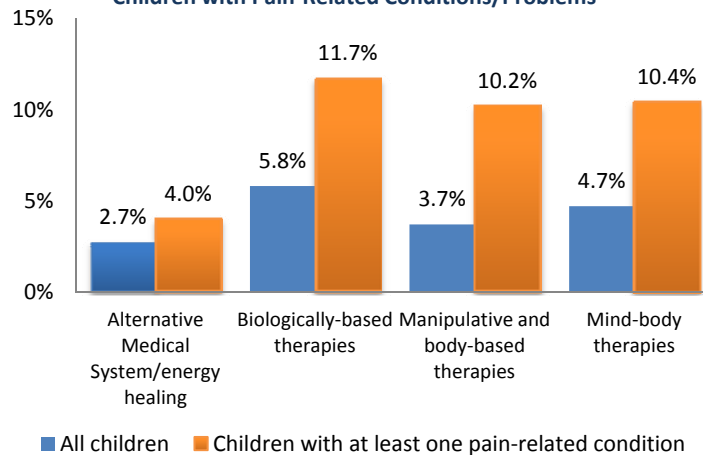
CAM services: acupuncture, Ayurveda, biofeedback, chelation, chiropractic or osteopathic manipulation, energy healing therapies, hypnosis, massage, naturopathy, traditional healers (Curandero, Espiritista, Hierbero or Yerbero, Shaman, Botanica, Native American Healer/Medicine Man, Sobador), movement therapies Feldenkreis, Alexander technique, Pilates, Trager psychophysical integration

CAM products: vitamins/minerals used to treat specific conditions in past 30 days, herbal supplements, homeopathy and 7 special diets (Vegetarian, Macrobiotic, Atkins, Pribkin, Omish, Zone, South beach)

CAM practices: movement therapies (Feldenkreis, Alexander technique, Pilates, Trager psychophysical integration), yoga, tai chi, qi gong, meditation, guided imagery, progressive relaxation, deep breathing exercises, 7 special diets, support group meetings, stress management class

- Prevalence of use of biologically-based and mind-body therapies is higher among children with EMB conditions than all children (Figure 1.2). Of the 18.0% children who used any Alternative Medical System or/and energy healing therapy, 24.5% who used any biologically-based therapy, 33.9% who used any manipulative and body-based therapy and 27.3% mind-body therapy users experienced at least one pain-related condition ever/in past 12 months.

Figure 1.2 Use of CAM Types (Grouping B), All Children and Children with Pain-Related Conditions/Problems



Alternative Medical System/Energy healing therapies: acupuncture, Ayurveda, homeopathic treatment, naturopathy, traditional healers (Curandero, Espiritista, Hierbero or Yerbero, Shaman, Botanica, Native American healer or Medicine man, Sobador) and energy healing therapies

Biologically-based therapies: chelation, herbal supplements, vitamins/minerals used to treat specific conditions in past 30 days, 7 special diets (Vegetarian, Macrobiotic, Atkins, Pribkin, Omish, Zone, South Beach)

Manipulative and body-based therapies: chiropractic or osteopathic manipulation, massage and movement therapies (Feldenkries, Alexander technique, Pilates, Trager psychophysical integration)

Mind-body therapies: biofeedback, meditation, guided imagery, progressive relaxation, deep breathing exercises, hypnosis, yoga, tai chai, qi gong, support group meeting and stress management class

Table 1.1. Specific CAM Modalities Used, All Children and Children with Pain-Related Conditions/Problems, Data: 2007 NHIS

| CAM modalities | Children with pain-related conditions/problems | | | | |
|------------------------------------------|-----------------------------------------------------|------|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| | All children who used the CAM modality (0-17 years) | | Children with pain-related conditions/problems who used the CAM modality | Among children with any pain-related condition, % of children who used the CAM modality | Among CAM modality users, % of children with pain-related condition |
| | Pop. est. | W % | Pop. est. | W % | W % |
| Vitamins/minerals (past 12 m) | 31,377,010 | 43.3 | 4,712,989 | 53.2 | 15.0 |
| Herbal supplements | 2,850,194 | 3.92 | 722,190 | 8.2 | 25.3 |
| Chiropractic or osteopathic manipulation | 2,019,779 | 2.77 | 689,661 | 7.8 | 34.1 |
| Deep breathing exercises | 1,557,534 | 2.14 | 528,288 | 6.0 | 33.9 |
| Yoga | 1,504,905 | 2.07 | 374,477 | 4.2 | 24.9 |
| Massage | 742,854 | 1.02 | 278,607 | 3.1 | 37.5 |
| Meditation | 724,648 | 1.00 | 244,676 | 2.8 | 33.8 |
| Support group meetings | 439,022 | 0.60 | 183,921 | 2.1 | 41.9 |
| Homeopathy | 907,235 | 1.25 | 175,417 | 2.0 | 19.3 |
| Special diets | 564,684 | 0.78 | 136,530 | 1.5 | 24.2 |
| Stress management class | 284,753 | 0.39 | 126,628 | 1.4 | 44.5 |
| Guided imagery | 293,444 | 0.40 | 121,331 | 1.4 | 41.3 |
| Progressive relaxation | 329,026 | 0.45 | 117,713 | 1.3 | 35.8 |
| Pilates | 244,944 | 0.34 | 73,593 | 0.8 | 30.0 |
| Naturopathy | 237,258 | 0.33 | 73,368 | 0.8 | 30.9 |
| Tai chi | 112,633 | 0.15 | 45,748 | 0.5 | 40.6 |
| Energy healing | 161,331 | 0.22 | 44,258 | 0.5 | 27.4 |
| Acupuncture | 150,416 | 0.21 | 40,026 | 0.5 | 26.6 |
| Espiritista | 509,893 | 0.70 | 39,101 | 0.4 | 7.7 |
| Biofeedback | 119,398 | 0.16 | 34,492 | 0.4 | 28.9 |
| Alexander technique | 53,568 | 0.07 | 24,791 | 0.3 | 46.3 |
| Medicine man | 98,410 | 0.14 | 17,565 | 0.2 | 17.8 |
| Ayurveda | 79,496 | 0.11 | 16,893 | 0.2 | 21.3 |
| Shaman | 28,668 | 0.04 | 10,202 | 0.1 | 35.6 |
| Trager psychophysical integration | 38,611 | 0.05 | 9,877 | 0.1 | 25.6 |
| Hierbero or Yerbera | 39,717 | 0.05 | 9,840 | 0.1 | 24.8 |
| Feldenkreis | 29,315 | 0.04 | 8,055 | 0.1 | 27.5 |
| Botanica | 34,416 | 0.05 | 8,055 | 0.1 | 23.4 |
| Sobador | 62,638 | 0.09 | 7,171 | 0.1 | 11.4 |
| Chelation | 71,512 | 0.10 | 7,053 | 0.1 | 9.9 |
| Hypnosis | 66,677 | 0.09 | 7,053 | 0.1 | 10.6 |
| Curandera | 55,934 | 0.08 | - | - | - |
| Qi gong | 50,419 | 0.07 | - | - | - |

Note: Shaded cells do not meet standards of precision (relative standard error – RSE- is greater than 30%)

USE OF MULTIPLE CAM MODALITIES

- Of the 26.6% of children age 0-17 with pain-related conditions and who used any type of CAM, 38.6% used 2 or more CAM modalities (Figure 1.3).
- Of the 42.0% of children who experienced 2 or more pain-related conditions/problems and used CAM, 37.3% used 2 or more types of CAM modalities.
- The number of CAM modalities used by children increases when number of pain-related conditions child experiences increases (Figure 1.4)

Figure 1.3. Number of CAM Modalities Used by All Children and Children with Pain-Related Conditions/Problems, Data: 2007 NHIS

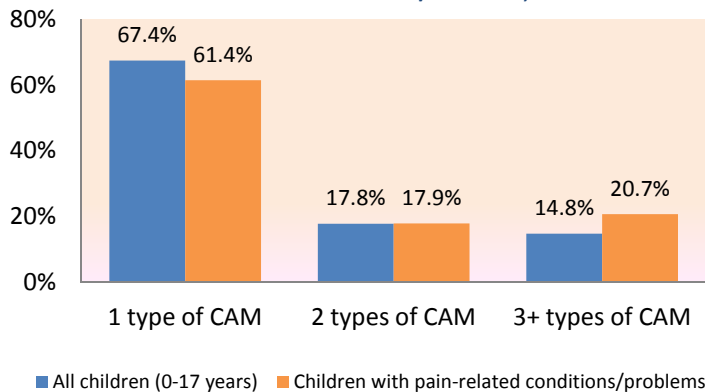


Figure 1.4. Number of Pain-Related (PR) Conditions Child Experiences, by Number of CAM Modalities Used, Data: 2007 NHIS

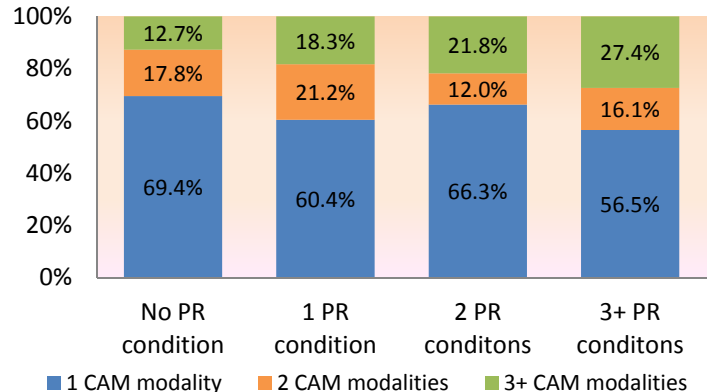


Table 1.2. Most Common Combinations of CAM Modalities among Children Who Experience Pain-Related Conditions/Problems

| 1 st Modality | 2 nd Modality | Among children who used 1 st modality, % of children who used the 2 nd modality | Among children who used 2 nd modality, % of children who used the 1 st modality |
|---------------------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Progressive relaxation | Deep breathing exercises | 100 | 22.3 |
| Guided imagery | Vitamins/minerals (past 12 months) | 91.8 | 2.4 |
| Guided imagery | Meditation | 91.4 | 45.3 |
| Energy healing therapy | Massage | 89.6 | 14.2 |
| Homeopathy | Vitamins/minerals (past 12 months) | 86.8 | 3.2 |
| Acupuncture | Vitamins/minerals (past 12 months) | 85.1 | 0.7 |
| Meditation | Vitamins/minerals (past 12 months) | 82.5 | 4.3 |
| Progressive relaxation | Meditation | 82.3 | 39.6 |
| Meditation | Deep breathing exercises | 79.3 | 36.7 |
| Naturopathy | Herbal supplements | 79.1 | 8.0 |
| Guided imagery | Deep breathing exercises | 76.0 | 17.5 |
| Herbal supplements | Vitamins/minerals (past 12 months) | 75.7 | 11.6 |
| Acupuncture | Massage | 74.9 | 10.8 |
| Biofeedback | Vitamins/minerals (past 12 months) | 71.9 | 0.5 |
| Energy healing therapy | Vitamins/minerals (past 12 months) | 71.6 | 0.7 |
| Progressive relaxation | Vitamins/minerals (past 12 months) | 70.6 | 1.8 |
| Deep breathing exercises | Vitamins/minerals (past 12 months) | 69.7 | 7.8 |
| Support group meetings | Deep breathing exercises | 69.1 | 23.3 |
| Stress management class | Vitamins/minerals (past 12 months) | 68.4 | 1.8 |
| Stress management class | Deep breathing exercises | 66.9 | 16.0 |
| Chiropractic/osteopathic manipulation | Vitamins/minerals (past 12 months) | 65.0 | 9.5 |
| Support group meetings | Vitamins/minerals (past 12 months) | 64.6 | 2.5 |
| Yoga | Vitamins/minerals (past 12 months) | 62.8 | 5.0 |
| Homeopathy | Chiropractic/Osteopathic manipulation | 52.2 | 13.3 |
| Massage | Chiropractic/Osteopathic manipulation | 45.2 | 18.3 |
| Homeopathy | Herbal supplements | 44.5 | 10.8 |
| Meditation | Yoga | 41.7 | 27.3 |
| Yoga | Deep breathing exercises | 35.7 | 25.3 |
| Chiropractic/osteopathic manipulation | Herbal supplements | 27.6 | 26.3 |
| Massage | Herbal supplements | 25.6 | 9.6 |

Note: Shaded cells do not meet standards of precision (relative standard error – RSE- is greater than 30%)

PART 2: CHARACTERISTICS OF CHILDREN WITH PAIN-RELATED CONDITIONS/PROBLEMS

DEMOGRAPHIC CHARACTERISTICS

Table 2.1. Characteristics of All Children and Children with Pain-Related Conditions/Problems, Data: 2007 NHIS

| Characteristics | All children (0-17 years) | | Children with pain-related conditions/problems | | | |
|---------------------------------|---------------------------|------|------------------------------------------------|------|------------------------|---------------|
| | | | All children | | CAM users ¹ | Non-CAM users |
| | Pop. est. | W % | Pop. est. | W % | W % | W % |
| All children | 73,727,832 | 100 | 8,943,008 | 100 | 26.6 | 73.4 |
| Age | | | | | | |
| 2-5 years | 24,809,525 | 33.7 | 881,292 | 9.9 | 6.3 | 11.2 |
| 6-11 years | 23,701,978 | 32.1 | 3,056,762 | 34.2 | 26.6 | 36.8 |
| 12-17 years | 25,216,329 | 34.2 | 5,004,954 | 56.0 | 67.1 | 52.0 |
| Sex | | | | | | |
| Male | 37,685,521 | 51.1 | 4,289,535 | 48.0 | 41.0 | 50.5 |
| Female | 36,042,311 | 48.9 | 4,653,473 | 52.0 | 59.0 | 49.5 |
| Race/ethnicity | | | | | | |
| Hispanic | 15,349,523 | 20.8 | 1,803,720 | 20.2 | 14.7 | 22.0 |
| White, non-Hispanic | 41,810,558 | 56.7 | 5,532,474 | 61.9 | 72.8 | 58.2 |
| African American, non-Hispanic | 10,861,730 | 14.7 | 1,025,309 | 11.5 | 5.1 | 13.6 |
| Asian, non-Hispanic | 2,797,438 | 3.8 | 173,286 | 1.9 | 1.0 | 2.3 |
| Multi/Other, non-Hispanic | 2,908,583 | 3.9 | 408,219 | 4.6 | 6.5 | 3.9 |
| Family income | | | | | | |
| 0-99% FPL | 13,512,503 | 18.3 | 1,789,932 | 20.0 | 12.4 | 22.7 |
| 100-199% FPL | 17,922,178 | 24.3 | 2,205,264 | 24.7 | 21.5 | 25.9 |
| 200-399% FPL | 22,852,213 | 31.0 | 2,837,578 | 31.7 | 35.7 | 30.4 |
| 400% FPL or above | 19,440,938 | 26.4 | 2,110,234 | 23.6 | 30.4 | 21.0 |
| Birth place | | | | | | |
| Born in US/US territory | 70,643,250 | 95.9 | 8,423,840 | 94.2 | 95.7 | 93.6 |
| Born outside of US | 3,030,068 | 4.1 | 519,168 | 5.8 | 4.3 | 6.4 |
| Geographic region | | | | | | |
| Northeast | 12,350,742 | 16.8 | 1,432,346 | 16.0 | 12.9 | 17.1 |
| Midwest | 17,447,893 | 23.7 | 2,216,193 | 24.8 | 27.7 | 23.9 |
| South | 27,199,661 | 36.9 | 3,331,926 | 37.3 | 28.3 | 40.4 |
| West | 16,729,536 | 22.7 | 1,962,543 | 21.9 | 31.2 | 18.6 |
| Mother's education level | | | | | | |
| Less than high school | 20,680,659 | 16.1 | 1,225,396 | 14.7 | 7.7 | 17.3 |
| High school diploma or GED | 46,343,454 | 25.0 | 1,967,865 | 23.5 | 18.5 | 25.4 |
| More than high school | 6,410,419 | 58.9 | 5,168,227 | 61.8 | 73.8 | 57.4 |
| Type of health insurance | | | | | | |
| Public only | 20,680,659 | 28.2 | 2,510,380 | 28.1 | 23.4 | 29.6 |
| Any private | 46,343,454 | 63.1 | 5,546,856 | 62.1 | 71.2 | 58.9 |
| Uninsured | 6,410,419 | 8.7 | 881,179 | 9.9 | 5.4 | 11.5 |

¹ CAM use includes vitamins/minerals used to treat specific conditions in past 30 days

Note: Shaded cells do not meet standards of precision (relative standard error – RSE- is greater than 30%)

CO-MORBIDITY OF CHILDREN WITH PAIN-RELATED CONDITIONS OR PROBLEMS

- Almost all (95.5%) children with pain-related conditions or problems experience at least one other chronic or non-chronic non-pain-related health condition or problem asked about in the 2007 NHIS.

Table 2.2. Conditions Types Reported for Children with Pain-Related Conditions/Problems, Data: 2007 NHIS

| Condition Types Reported in Sample Child Core | Children with pain-related condition who also experience the condition type | Among children who experience the condition type, % of children with pain-related condition | Among children pain-related condition, % of children who experience the condition type |
|-----------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| | Pop. est. | W % | W % |
| Emotional, mental or behavioral | 3,330,489 | 30.8 | 37.8 |
| Gastroenterology | 4,890,854 | 23.8 | 54.7 |
| Respiratory/pulmonary | 4,491,449 | 23.1 | 50.2 |
| Common acute | 7,678,120 | 16.9 | 85.9 |
| Developmental | 1,752,027 | 27.3 | 19.6 |
| Other neurological | 4,777,013 | 34.4 | 5.2 |
| Sensory | 908,299 | 21.0 | 10.2 |
| Dermatological | 2,837,229 | 23.9 | 31.7 |
| Other | 3,537,486 | 36.7 | 39.6 |

Note: Groups of conditions are not mutually exclusive; children may appear in more than one group

Emotional, mental or behavioral: anxiety or stress, depression, ADD/ADHD, phobia or fears, Insomnia/trouble sleeping, incontinence including bedwetting

Gastroenterology: food or digestive allergy, frequent diarrhea or colitis, acid reflux or heartburn, nausea/vomiting, recurring constipation

Respiratory/pulmonary: asthma with episode in past 12 months, hay fever, respiratory allergy, other lung or breathing problem, sinusitis, other allergies

Common acute: 3 or more ear infections, fever, head or chest cold, influenza or pneumonia, strep sore throat, other sore throat, urinary tract infection, nausea/vomiting

Developmental: autism, cerebral palsy (interviewing quartile 3 and 4), Down syndrome, muscular dystrophy, mental retardation, speech problem, other developmental delay, learning disability

Other neurological (not including migraines, non-migraine headache): seizure, other neurological problems

Sensory: hearing problem, vision problem

Dermatological: eczema or skin allergy, severe acne, warts, skin problems other than eczema, acne, warts

Other: cancer, congenital heart disease, chickenpox, cystic fibrosis, diabetes, other heart problems, problems with being overweight, menstrual problems, fatigue or lack of energy, gum disease, anemia, sickle cell anemia

- 83.0% of children with pain-related condition experienced at least one non-pain chronic condition or problem. There is a linear association between number of non-pain chronic conditions children with pain-related conditions experience and number of CAM use (Figure 1.5).

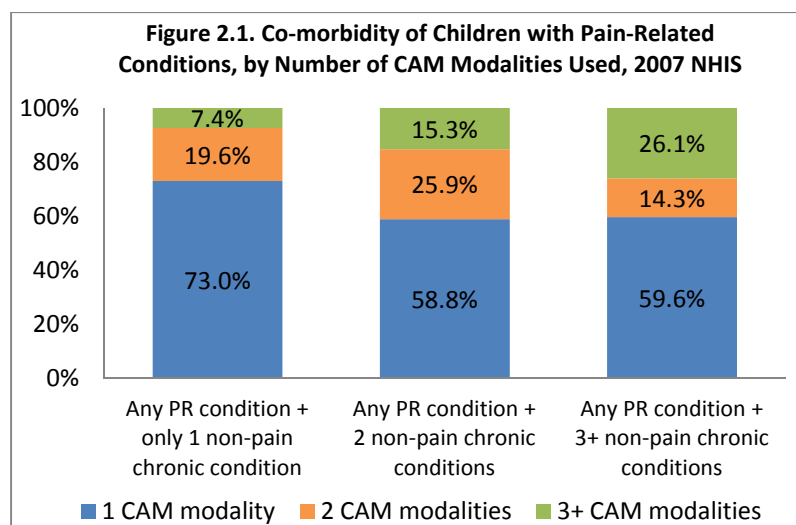


Table 2.3. Specific Conditions Reported for Children with Pain-Related Conditions/Problems, Data 2007 NHIS

| Conditions Reported in Sample Child Core | Among children with at least one pain-related condition, % of children who experience the condition | Among children who experience the condition, % of children with at least one pain-related condition |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Head or chest cold | 69.1 | 16.9 |
| Sore throat other than strep or tonsillitis | 55.3 | 20.9 |
| Fever | 45.2 | 18.8 |
| Nausea and/or vomiting | 41.6 | 24.5 |
| Menstrual problems (girls 10-17 years) | 34.8 | 51.1 |
| Strep throat or tonsillitis | 24.4 | 24.6 |
| Hay fever | 23.2 | 27.8 |
| Respiratory allergy | 20.0 | 25.3 |
| Fatigue or lack of energy | 19.7 | 64.2 |
| Sinusitis | 19.1 | 32.0 |
| Very low birth weight (0-2 years) | 17.2 | 11.4 |
| Learning disability (3-17 years) | 15.9 | 29.5 |
| Insomnia or trouble sleeping (3-17 years) | 15.5 | 42.0 |
| Eczema or skin allergy | 14.9 | 20.3 |
| Acid reflux or heartburn | 14.9 | 42.3 |
| Attention Deficit Hyperactivity Disorder or Attention Deficit Disorder (2-17 years) | 13.3 | 26.3 |
| Problems with being overweight | 13.2 | 30.7 |
| influenza or pneumonia | 12.8 | 24.4 |
| Asthma with episode in past 12 months | 12.5 | 29.1 |
| Recurring constipation | 11.6 | 29.8 |
| 3 or more ear infections | 9.0 | 21.5 |
| Severe acne | 8.8 | 38.1 |
| Food or digestive allergy | 8.0 | 24.4 |
| Other allergies | 7.7 | 18.8 |
| Other developmental delay | 7.4 | 28.0 |
| Warts | 7.3 | 26.5 |
| Skin problems other than eczema, acne, or warts | 7.4 | 28.9 |
| Phobia or fears (4-17 years) | 6.4 | 36.3 |
| incontinence including bed wetting (4-17 years) | 6.0 | 26.4 |
| Hearing problem | 5.9 | 19.6 |
| Other lung and breathing problem | 5.6 | 19.9 |
| Vision problem | 5.2 | 25.3 |
| Frequent/repeated diarrhea or colitis | 4.9 | 37.0 |
| Speech problem (3-17 years) | 4.4 | 39.9 |
| Urinary tract infections | 4.3 | 38.0 |
| Other neurological problems | 4.2 | 38.7 |
| Anemia | 4.2 | 40.6 |
| Other heart condition | 2.5 | 30.6 |
| Autism | 1.8 | 33.1 |
| Gum disease | 1.8 | 49.4 |
| Seizures | 1.6 | 25.8 |
| Mental retardation | 1.3 | 25.6 |
| Chickenpox | 0.7 | 11.1 |
| Diabetes | 0.7 | 51.5 |
| Congenital heart disease | 0.5 | 21.9 |
| Down syndrome | 0.3 | 27.3 |
| Cancer | 0.2 | 29.9 |
| Cerebral palsy (Q3 and 4)* | 0.1 | 4.3 |
| Muscular dystrophy | 0.05 | 22.8 |
| Sickle cell anemia | 0.04 | 2.9 |
| Cystic fibrosis | - | - |

Shaded cells do not meet standards of precision (relative standard error – RSE- is greater than 30)

Note: *Data for cerebral palsy includes only data from interviewing quartile of 3 and 4 due to survey instrument change error

PART 3: RELATIONSHIP BETWEEN CAM AND CONVENTIONAL MEDICAL CARE USE

- Children with pain-related conditions or problems who used CAM more likely to use conventional medical care (except hospitalization and emergency room visits) and experience access problems than children with pain-related conditions or problems who DID NOT use CAM.

Table 3.1. Utilization of Conventional Medical Care and Access Problems for Children with Pain-Related Conditions/Problems, by CAM use, Data: 2007 NHIS

| Conventional Care Use and Access Problems | All children 0-17 years | Children with pain-related conditions/problems | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------|------------------------|------------------|
| | | All children | CAM users ³ | Non-CAM users |
| | | W % | W % | W % |
| Number of office visits to health professionals | | | | |
| 0-3 visits | 69.2 | 51.8 | 37.8 | 56.8 |
| 4-7 visits | 22.1 | 28.3 | 31.6 | 27.0 |
| 8 or more visits | 8.7 | 19.9 | 30.6 | 16.2 |
| Receive medical specialist care | 13.2 | 27.1 | 36.0 | 23.8 |
| Receive mental health care | 6.8 | 15.7 | 28.0 | 11.2 |
| 1 or more emergency room (ER) visit | 20.2 | 32.4 | 33.9 | 32.0 |
| Hospitalization, not including birth | 2.7 | 5.8 | 5.3 | 6.1 |
| Receive special therapies such as physical therapist, speech therapist, respiratory therapist, audiologist, or occupational therapist due to health issue | 5.4 | 11.3 | 16.7 | 9.3 |
| Regularly taken prescription medications for at least 3 months | 12.3 | 27.0 | 34.8 | 24.3 |
| Receive Special Education or Early Intervention Services | 6.5 | 12.8 | 16.0 | 11.7 |
| At least one medical care access problem (unmet need ¹ or/and care delay ²) | 16.1 | 32.0 | 36.0 | 30.8 |
| Unmet need for medical health care due to cost | 2.5 | 4.9 | 5.5 | 4.7 |
| 1 or more reasons of medical care delay ² | 9.7 | 19.2 | 25.2 | 17.1 |

¹ unmet needs for Rx med, medical, mental, dental health care, eyeglasses due to cost

² due to logistics reasons: couldn't get through on the telephone, couldn't get appointment soon enough, wait too long, wasn't open when get there, didn't get transportation

³ CAM use includes vitamins/minerals used to treat specific conditions in past 30 days

Table 3.2. Combination of Specific CAM Modalities and Conventional Medical Care Experience among Children with Pain-Related Conditions/Problems

| CAM modality vs. Specialist care | Among CAM modality users, % of children who received specialist care | Among children who received specialist care, % of children who used the CAM modality |
|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Yoga | 49.0 | 7.7 |
| Massage | 42.8 | 5.0 |
| Deep breathing exercises | 41.7 | 9.2 |
| Meditation | 41.6 | 4.3 |
| Homeopathy | 38.1 | 2.8 |
| Herbal supplements | 37.7 | 11.4 |
| Chiropractic/osteopathic manipulation | 29.5 | 8.5 |
| Vitamins/minerals (past 12 months) | 28.4 | 55.6 |
| CAM modality vs. Mental health care (MHC) | Among CAM modality users, % of children who received MHC | Among children who received MHC, % of children who used the CAM modality |
| Stress management class | 84.9 | 7.8 |
| Support group meeting | 75.5 | 9.8 |
| Progressive relaxation | 66.1 | 5.7 |
| Deep breathing exercises | 50.9 | 19.6 |
| Vitamins/minerals (past 12 months) | 14.7 | 49.8 |
| Homeopathy | 43.8 | 5.6 |
| Meditation | 43.0 | 7.7 |
| Herbal supplements | 33.4 | 17.5 |
| Chiropractic/osteopathic manipulation | 27.6 | 13.8 |
| Yoga | 27.2 | 7.4 |
| CAM modality vs. Use of prescription medication regularly for at least 3 months (Rx meds) | Among CAM modality users, % of children who take Rx meds | Among children who take Rx meds, % of children who used the CAM modality |
| Stress management class | 80.5 | 4.2 |
| Support group meeting | 61.5 | 4.7 |
| Deep breathing exercises | 51.2 | 11.2 |
| Meditation | 40.5 | 4.1 |
| Yoga | 34.3 | 5.3 |
| Chiropractic/osteopathic manipulation | 29.3 | 8.4 |
| Herbal supplements | 29.1 | 8.8 |
| Vitamins/minerals (past 12 months) | 28.5 | 55.7 |
| Massage | 27.6 | 3.2 |
| CAM modality vs. Access problem (unmet or/and delay) | Among CAM modality users, % of children who have access problem | Among children who have access problem, % of children who used the CAM modality |
| Support group meeting | 63.7 | 4.1 |
| Stress management class | 58.6 | 2.6 |
| Deep breathing exercises | 43.8 | 8.1 |
| Homeopathy | 42.4 | 2.6 |
| Meditation | 40.4 | 3.5 |
| Chiropractic/osteopathic manipulation | 33.5 | 8.1 |
| Herbal supplements | 37.0 | 9.3 |
| Vitamins/minerals (past 12 months) | 35.8 | 59.0 |
| Yoga | 36.3 | 4.8 |
| Massage | 26.8 | 2.6 |

Note: Shaded cells do not meet standards of precision (relative standard error – RSE- is greater than 30%)

- Conventional health care expenditures higher for children with at least one pain-related condition/problem than expenditures for all children. The total health care expenditure and out-of-pocket expenditures for children with pain-related conditions/problems and used CAM higher than children who experience the condition and did not use CAM.

Table 3.3. Adjusted Total Health Care Expenditures for All Children, Children with Pain-Related Conditions or/and Used Any CAM, Data: 2007 NHIS and 2008 MEPS Linked File

| All children (0-17 years) | Children with pain-related condition | Any CAM users (0-17 years) | Children with pain-related condition who used CAM | Children with pain-related condition who DID NOT use CAM |
|---------------------------|--------------------------------------|----------------------------|---------------------------------------------------|----------------------------------------------------------|
| Mean (95% CIs) | Mean (95% CIs) | Mean (95% CIs) | Mean (95% CIs) | Mean (95% CIs) |
| \$1,452 (1,414-1,489) | \$2,459 (2,333-2,585) | \$2,050 (1,955-2,146) | \$3,453 (3,153-3,752) | \$2,152 (2,040-2,263) |

* Adjusted for children's age, sex, race/ethnicity, family income, US region child lives

Table 3.4. Adjusted Out-of-Pocket Health Care Expenditures for All Children, Children with Pain-Related Conditions or/and Used Any CAM, Data: 2007 NHIS and 2008 MEPS Linked File

| All children (0-17 years) | Children with pain-related condition | Any CAM users (0-17 years) | Children with pain-related condition who used CAM | Children with pain-related condition who DID NOT use CAM |
|---------------------------|--------------------------------------|----------------------------|---------------------------------------------------|----------------------------------------------------------|
| Mean (95% CIs) | Mean (95% CIs) | Mean (95% CIs) | Mean (95% CIs) | Mean (95% CIs) |
| \$312 (296-328) | \$390 (350-430) | \$442 (402-482) | \$571 (488-654) | \$323 (284-361) |

* Adjusted for children's age, sex, race/ethnicity, family income, US region child lives