



HEALTHCARE REVOLUTION: The Growing Popularity of Complementary and Alternative Medicine (CAM)

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Responding to cost trends in the U.S. healthcare system and the influence of the aging Baby Boomer generation, Complementary and Alternative Medicine (CAM) is an integrated form of healthcare that has become one of the fastest growing healthcare fields.

As an umbrella term, CAM describes a wide range of modalities, including chiropractic, massage therapy, acupuncture, laser therapy and other natural approaches to wellness. CAM therapies emphasize the natural healing ability of the body versus the emphasis on technology for healing in conventional medicine.

In keeping with the trend toward patient-centric care, CAM therapies tend to treat the whole person, emphasizing prevention and individualized programs of care targeted toward the cause of illness rather than its symptoms. A growing number of healthcare professionals and consumers have begun to integrate CAM into mainstream healthcare in response to the increasing costs of America's healthcare system and the growing number of people with chronic disease due to an aging population. Today, CAM therapies are used for pain and injury prevention, post-surgical treatment and non-invasive pain relief, and are available in many high-profile institutions, including the Mayo Clinic which has begun to incorporate massage therapy into post-surgical treatment.¹

With broader acceptance of CAM therapies, particularly among Boomers who remain active for a longer time period, it is likely that more

Americans will seek healthcare services that emphasize non-surgical, non-drug options for maximizing mobility and independence.

The National Center for Complementary and Alternative Medicine (NCCAM) classifies CAM into categories:

- **Whole medical systems – homeopathy, naturopathy, Ayurvedic medicine, ancient medicines**
- **Biologically based treatments – macrobiotics, dietary supplements and herbal therapies**
- **Manipulative and body-based methods – chiropractic, osteopathic manipulation, massage therapy and pressure point therapies**
- **Energy therapies – reiki and therapeutic touch therapy, bioelectromagnetic therapies utilize magnetic, pulsed or direct current fields for healing**

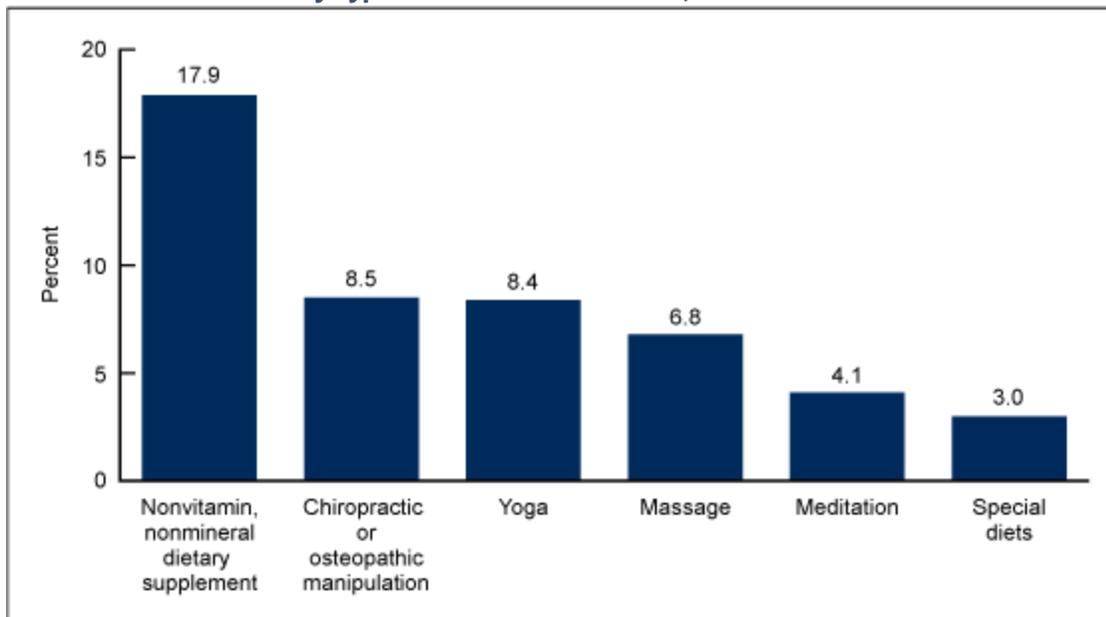
Following the CAM Trend

Nearly 40 percent of Americans use healthcare approaches developed outside of mainstream Western, or conventional, medicine for specific conditions or overall well-being.² CAM services in the United States are an approximately \$9 billion market each year, which is paid for primarily out-of-pocket.³ By encouraging health and wellness, and ownership of healthcare costs, healthcare reform has also played a role in prompting more consumers to turn to CAM options in combination with conventional medicine.

CAM adds options to healthcare choices, particularly the treatment of chronic pain and other debilitating conditions. In most cases, alternative treatments are more personal, less invasive and often less costly than traditional healthcare options.

Chart 1 shows the percentage of adults who use CAM, according to the Centers for Disease Control and Prevention's (CDC) most recent data.

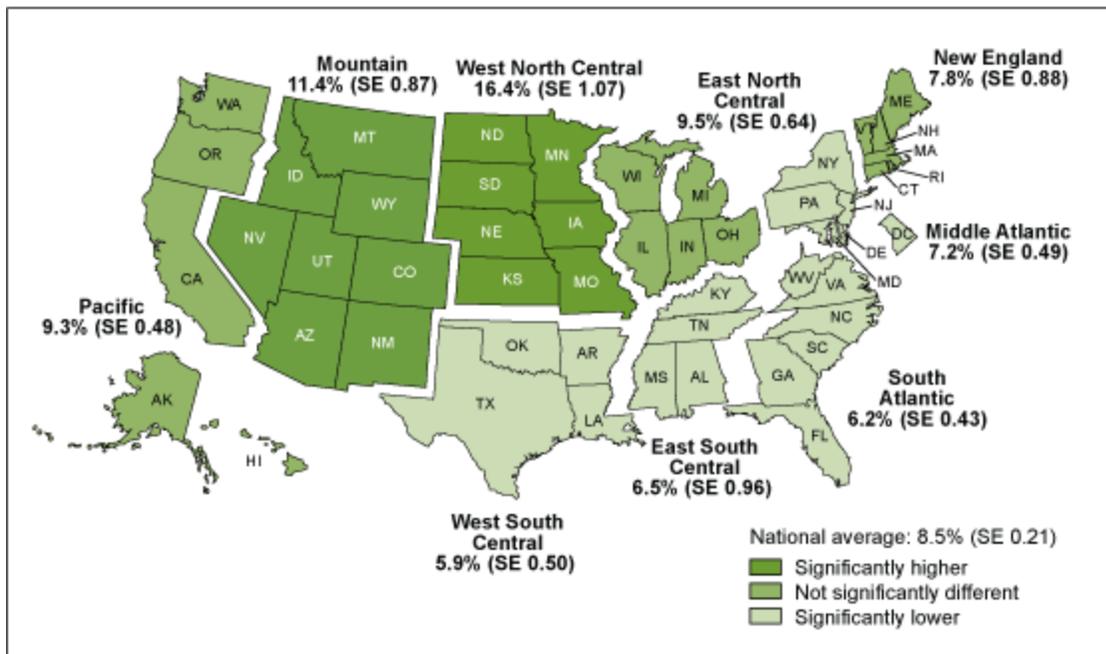
Chart 1: Use of CAM by type in the United States, 2012.



SOURCE: <http://www.cdc.gov/nchs/data/databriefs/db146.htm>

Chart 2 shows the percentage of adults who see a practitioner for chiropractic or osteopathic manipulation, according to the CDC.

Chart 2: Adult use of chiropractic or osteopathic manipulation by region in the United States, 2012.



SOURCE: <http://www.cdc.gov/nchs/data/databriefs/db146.htm>

In its study, the CDC found that in 2012, non-vitamin, non-mineral dietary supplements (17.9 percent), practitioner-based chiropractic or osteopathic manipulation (8.5 percent), yoga with deep breathing or meditation (8.4 percent), and massage therapy (6.8 percent) were the most common complementary health approaches used by U.S. adults.⁴ Previous research demonstrated that regional differences exist in the use of complementary health approaches among adults in the U.S., and this report reveals that those regional differences persist across a wide range of complementary health approaches. Environmental and cultural factors unique to towns, regions and economic factors have long been linked to differences in health behaviors and general health measures in the U.S. population.

Overall, the practice of CAM has risen dramatically in recent years. According to the National Institutes of Health, an estimated 18 million Americans receive massage therapy each year,⁵ while chiropractors treat more than 30 million people annually. According to a 2011 survey, more than 42 percent of responding hospitals offer one or more CAM therapies – up from 37 percent in 2007.⁶

Innovative Technology and Products

Among the newest technologies, low-level laser therapy is a rapidly growing modality used in chiropractic, physical therapy, sports medicine and, increasingly, in mainstream medicine.

It is used to increase wound healing and tissue regeneration, relieve pain and inflammation, prevent tissue death and mitigate degeneration in many neurological indications. Lasers have been shown to be the safest and most effective way to reduce pain during physical rehabilitation – without the use of drugs.

For physical therapy practices, integrating lasers can provide patients with a natural, non-invasive solution that fits every stage of care, accelerating pain relief and healing with no side effects or risk of addiction to painkillers.

Innovative New Products

An increase in the number of massage therapists, physical therapists, occupational therapists and athletic trainers has sparked an industry focused on providing high quality equipment, supplies, life-enhancing products and the latest technology for consumers and businesses. Such medical developments and techniques are poised to change the face of healthcare.

CAM also includes a large and diverse group of orally or topically administered substances such as herbal medicines, botanicals and probiotics that are widely marketed and readily available, often sold as dietary supplements.

Building rigorous evidence regarding CAM natural products require exploratory studies that have the potential to yield new, fundamental, mechanistic or physiological insight and to identify signals of useful effects in ongoing clinical experience.⁷ This work also allows for opportunistic discoveries, with the range of CAM natural products appropriate for such exploratory research being extensive.

Proven Benefits of Massage Therapy, Chiropractic and Acupuncture

Massage Therapy – Studies show that massage therapy (MT) increases endorphins and serotonin, chemicals that act as natural painkillers and mood regulators. MT also reduces levels of the stress hormone cortisol, and turns off genes associated with inflammation and its associated pain, which in turn relieves muscle soreness.⁸ Moderate to deep pressure massage can activate the vagus nerve which regulates heartbeat, helping with everything from depression relief to weight gain in premature infants. Studies also show that massage helps reduce anxiety, pain and nausea in cancer patients by 44 percent, and also raises the level of cancer-fighting white blood cells.⁹

Chiropractic – According to the American Chiropractic Association, more than 30 million Americans suffer back pain, and an estimated 80 percent will suffer from it at some time in their life. Chiropractic treatment of neck pain provides more relief than over-the-counter drugs like aspirin and ibuprofen. In one study, after 12 weeks of treatment more than half treated reported at least 75 percent reduction in pain compared with one-third in the drug group. A year later more than 50 percent of those treated with chiropractic reported significant decrease in pain. Meanwhile the patients taking pain killers had upped their dosage during the same period.¹⁰

Washington State CAM Case Study

In 2010, an extensive cost-minimization analysis of healthcare expenditures by insured patients in Washington State was performed. The broad inclusion of CAM provides a test case for what could be expected nationally if licensed CAM providers were included in federal-level healthcare reform.

Data was collected from insurance claims from visits with both CAM providers (naturopathic physicians, chiropractors, acupuncturists, and massage therapist) and conventional providers (medical doctors, osteopathic physicians, advanced registered nurse practitioners, and physician assistants) for back pain, fibromyalgia, and menopause.

Researchers concluded that CAM users with low back pain, fibromyalgia, or menopausal symptoms had lower average expenditures compared to non-CAM users (\$3,797 vs. \$4,153, $P=0.0001$).

The most impressive difference in expenditures was seen in patients with the highest disease burden, wherein patients with the poorest health cost an average of \$1,420 less annually if they were CAM users compared to those who were under the care of conventional providers exclusively ($P<0.0001$).

From the perspective of third party payers, the use of CAM may result in cost savings in patients with back pain, menopausal symptoms and fibromyalgia. Additional studies are needed to address the economic impact of CAM from societal and patient perspectives.

Researchers found that while all patients reported significantly lower pain scores, data for the two groups "do not demonstrate a significant difference for standardized outcomes measures of pain, generalized health status, satisfaction or disability."

Acupuncture— Acupuncture has been studied for a wide range of pain conditions, such as post-operative dental pain, carpal tunnel syndrome, fibromyalgia, headache, low back pain, menstrual cramps, myofascial pain, osteoarthritis and tennis elbow.¹¹

Researchers in Germany conducting acupuncture trials for patients with chronic low back pain found that only 15 percent of subjects who received genuine acupuncture treatment needed extra pain medication, compared with 34 percent who were receiving placebo treatments, and 59 percent receiving conventional therapy.¹² Long-term pain reduction was also best for subjects who received either real or placebo acupuncture versus those who received conventional therapy.

In another study, researchers used placebo acupuncture controls entirely and compared it to the drug Effexor for relieving hot flashes in breast cancer patients. They found that acupuncture relieved hot flashes as effectively as the drug and with fewer side effects, namely the lack of energy and reduced sex drive.

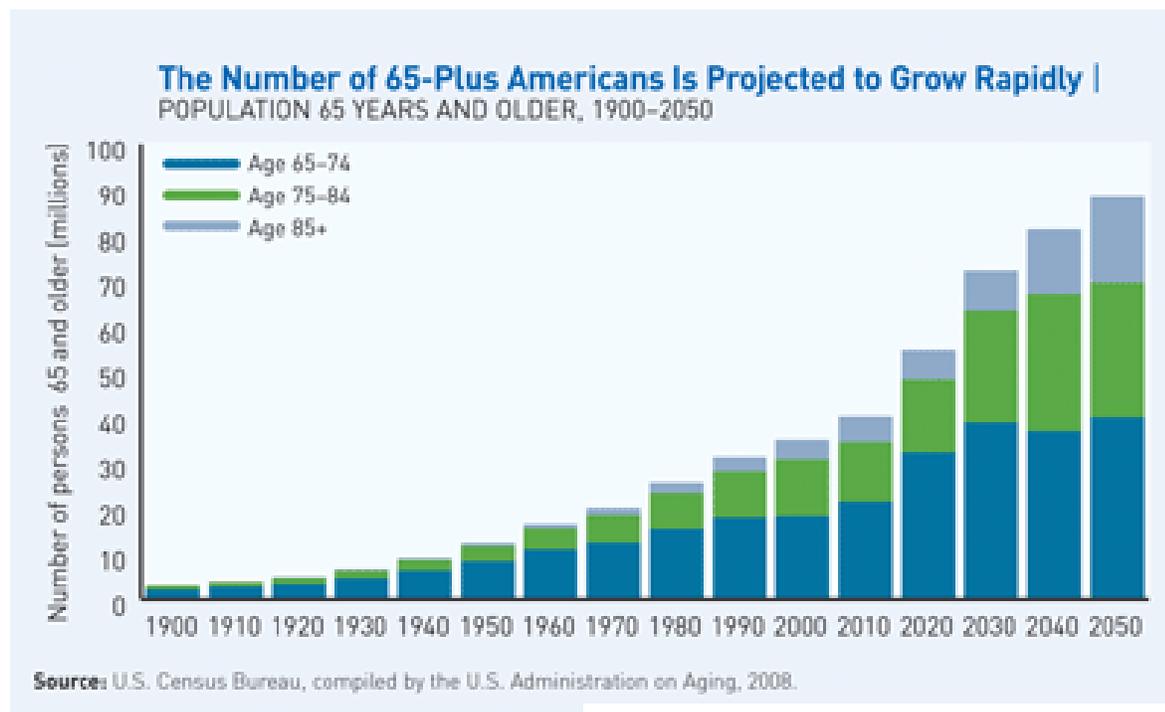
Proponents of acupuncture say that it doesn't matter if a placebo effect is at work or not because the ultimate goal is to activate the body's power to heal itself. This, in fact, seems to be the point at which Western medicine and the relatively new approaches of CAM do converge.¹³

The Economics of CAM

The number of people age 65 and older will double to 81 million in the next 30 years and the demand for nonmedical home-based help — for daily activities such as dressing, bathing and meal preparation — is expected to soar.¹⁴ This will spark a rise in demand for home medical equipment and supplies and for CAM services, such as chiropractic, physical therapy and massage therapy and their related products, such as physical therapy equipment and supplies.

Decreased mobility of arthritis, for example, will cause many Boomers to seek new alternative therapies, pain control treatments, exercise regimens and joint replacements. Seventy percent of Boomers have used some form of CAM. The most popular treatments include massage

therapy, chiropractic services and other types of body treatments. More than 10 percent of Boomers and current seniors have tried mind-body practices such as meditation, hypnosis and acupuncture. Aging Boomers with higher expectations of service will demand more innovative, personalized healthcare programs that cater to their needs.¹⁵



Pain and CAM

More than 632 million people worldwide suffer from low back pain, and it is a leading cause of disability. According to the Institute of Medicine, one-third of all Americans suffer from chronic pain, which exceeds the number of people who are affected by heart disease, diabetes and cancer combined. The economic costs of medical care and lost productivity total more than \$550 billion annually.¹⁶

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A Conservative Strategy for Managing Chronic Low Back Pain

- PCP discussion related to self-care consisting of rest, ice, compression and elevation (RICE)
- Screening for psychosocial factors or "yellow flags" and incorporate behavioral interventions as appropriate with other treatment interventions
- Education on self-management techniques – functional ability assessment and education on return to work / usual activity and function
- Enrollment and graduation from UPMC Health Plan Health Coach's Low Back Pain Program (mandatory) which may also include participation in other programs such as weight loss, physical activity, tobacco cessation, depression and/or stress
- Early referral to chiropractor or physical therapist, but before advanced imaging, for manipulation/mobilization; stabilization exercises; directional preference strategies – member and/or provider movements that abolish or cause centralization of pain (McKenzie self-treatment repeated movements that centralize pain)
- Detailed documentation of extent and response to conservative treatment including chiropractor/physical therapy documentation

SOURCE: UPMC Health Plan Policy and Procedure Manual, October 2011: Surgical Management of Low Back Pain

(partial list of considerations prior to spine surgery to determine medical necessity). Complete policy available at www.upmchealthplan.com/pdf/PandP/MP.043.pdf.

According to the 2007 National Health Interview Survey, back pain and related conditions are the top reasons adults use CAM. Research on CAM therapies for low back pain suggest that:

- Spinal manipulation can provide mild-to-moderate relief, and appears to be as effective as conventional treatments.
- Acupuncture is more effective than placebo or no treatment in relieving pain and improving function – and is an effective complement to conventional treatments.
- A 2008 review of 13 clinical trials found evidence that massage might be useful for low back pain.

Recently, the American College of Physicians and the American Pain Society said these CAM therapies can serve as options for chronic back pain that does not improve with self-care.¹⁷

Conclusion

CAM encompasses a wide array of healthcare practices, products and therapies that are distinct from those used in conventional medicine. Some forms of CAM, such as traditional Chinese medicine and Ayurvedic medicine, have been practiced for centuries, whereas others, such as chiropractic, laser therapy and electrotherapy, are more recent in origin.¹⁸

CAM's growing popularity highlights a number of opportunities for improvement within conventional medicine, including the need to: generate more meaningful communication between patient and healthcare providers; update the definition of wellness and health maintenance; foster an environment in which physicians and consumers have the opportunity to explore alternative therapies that can be incorporated with conventional medicine; and improve the U.S. healthcare system for long-term sustainability.¹⁹



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- ⁷ National Center for Complementary and Alternative Medicine; Exploring the Science of Complementary and Alternative Medicine; *Third Strategic Plan 2011–2015*; http://nccam.nih.gov/sites/nccam.nih.gov/files/NCCAM_SP_508.pdf; accessed March 19, 2014.
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