Cost-Effective Essential Health Benefits:  
Expanding Consumer Choice and Access to Care  
*Submitted to the Institute of Medicine*  
*Defining and Revising an Essential Health Benefits Package for Qualified Health Plans Study*  

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- Council of Colleges of Acupuncture and Oriental Medicine (CCAOM)
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Cost-Effective Essential Health Benefits: Expanding Consumer Choice and Access to Care

This information is submitted to the Institute of Medicine as a summary report in support of acupuncture as a potentially-covered Essential Health Benefit. It outlines the criteria HHS should use to determine and update the essential health benefits package and assesses the benefits of including acupuncture in said benefit package.

Criteria and Methodology Recommendations
The following are criteria HHS should emphasize to determine the details of each benefits package:

Is the health benefit cost-effective? Does the benefit make health care more affordable to greater areas of the US population? And does the benefit meet - or exceed - criteria of care in the context of PPACA’s Categories of Care?

1. Ambulatory patient services
   ○ According to the National Institutes of Health (NIH), Acupuncture is the practice of inserting thin needles into specific body points to improve health and well-being. Throughout the country, the majority of licensed acupuncturists provide care on an outpatient basis for a wide array of disorders. Among the most common conditions for which patients seek acupuncture is pain. Many types of pain relief are currently reimbursed by insurance providers - a development supported by a growing body of science and research. Nature, one of the world’s leading scientific journals, published a May 30, 2010 article confirming acupuncture’s role in triggering the release of adenosine - a neuromodulator with anti-nociceptive properties. ¹

   ○ Knee pain is an example of a condition commonly treated by acupuncture. When acupuncture was added to the treatment protocol for arthroplasty of the knee, over a third of patients were able to avoid surgery, resulting in a savings of $9,000 per patient. ² The Journal of Bone and Joint Surgery estimates that by 2030, the demand for primary total knee arthroplasties is projected to grow by 673% to 3.48 million procedures. If a third of those could avoid surgery through acupuncture care, this would represent a total savings of $10.44 billion. ³

2. Maternity and newborn care
   ○ Maternity ward rooms around the world are among the hospital settings most familiar with the positive health outcomes acupuncturists help provide.

   ○ A 2005 British Medical Journal published a randomized single blind controlled trial (n=386) stating that Acupuncture and stabilising exercises constitute efficient

¹ http://www.nature.com/neo/neurojournal/v13/n7/abs/nn.2562.html
² http://www.ncbi.nlm.nih.gov/pubmed/1514335
³ http://www.ejbjs.org/cgi/content/abstract/89/4/780
complements to standard treatment for the management of Pelvic Girdle Pain (PGP) during pregnancy. Acupuncture was superior to stabilising exercises in this study.\(^4\)

3. **Mental health and substance use disorder services including behavioral health treatment**
   - Currently, the Military and Veteran’s Administration are using acupuncture to combat the symptoms of Post-Traumatic Stress Disorder (PTSD) in facilities across the country (including Camp Pendleton, Ft. Hood and Walter Reed Army Medical Center). One Active Military Clinic reported weekly cost savings to be $18.76 per patient by replacing pharmacotherapy with acupuncture care - representing an annual cost saving of $129,000 in 2009.\(^5\)
   - Similarly, the authors of a 2011 randomized, double-blind controlled trial concluded that acupuncture for Post-Stroke Depression (PSD) is as effective as fluoxetine, without obvious drug-induced adverse reaction involved.\(^6\)

4. **Rehabilitative and habilitative services and devices**
   - One 2002 case of Carpal Tunnel Syndrome (CTS) treatment without surgical intervention cost $5,246 versus an estimated $1,000 in acupuncture treatments (based on 15 visits at $65 per visit). According to NIH, an estimated three of every 10,000 workers lost time from work in 1998 because of carpal tunnel syndrome. Conservatively assuming 54,000 impacted workers per year, this equals an annual savings of $216 million for CTS treatment alone.
   - Dutch researchers of the Erasmus University Medical Center Rotterdam observed that musculoskeletal complaints are associated with a large medical and societal burden. They concluded that the observed improvements in Health Related Quality of Life (HRQoL) suggest a subjective, clinically relevant, benefit of routine acupuncture therapy in treating musculoskeletal complaints.\(^7\)

5. **Preventive and wellness services and chronic disease management**
   - In terms of chronic disease management, many hospitals and clinics deploy acupuncturists. Cancer Treatment Centers of America (CTCA) employs acupuncturists in its five hospitals across the nation, providing thousands of acupuncture treatments in a truly integrative setting.\(^8\)
   - According to the Centers for Disease Control and Prevention (CDC), stroke is the third most common cause of death in the United States. Stroke patients who received adjunctive acupuncture treatment decreased their hospital stays by about half, and


\(^8\) [http://www.cancercenter.com/complementary-alternative-medicine/acupuncture.cfm](http://www.cancercenter.com/complementary-alternative-medicine/acupuncture.cfm)
saved $26,000 per patient. In California alone, with a reported 641,000 stroke patients in 2005, this would represent a $16.6 billion saving.\(^9\)

**Does the benefit expand patient choice and access to health care?**

- *Acupuncture is already a part of the broad health care fabric of America and is successfully and safely practiced throughout the country.* There is wide acceptance of acupuncture by health insurance carriers, health care providers as well as the US health care consumer - who often opt to pay out-of-pocket as a measure of perceived patient value\(^10\).

- Below patient groups receive acupuncture on a regular basis:
  - **Military Personnel** - Currently, there are several Veterans Affairs and Active Military Treatment Facilities that utilize acupuncture for pain management, PTSD and compassion fatigue for health care providers. HealingWorks, specifically, not only provides acupuncture and integrative services to military personnel, but to their family members and caregivers as well.
    - Acupuncture is one of the treatment modalities used to treat the symptoms of PTSD at the Ft. Bliss Restoration & Resilience Center, the Warrior Combat Stress Reset Program at Ft. Hood, and at Camp Pendleton.
    - Acupuncture is also utilized at Walter Reed Army Medical Center for the treatment of compassion fatigue in health care providers.
    - Ft. Carson, Schofield Barracks Clinic, the Seattle VA, the VA at Salt Lake City, as well as the Air Force primarily use acupuncture for pain management.
  - **Corporate Employees** - In 2004, the Kaiser Family Foundation found that, out of 3,017 randomly selected public and private firms, 47% of employers offer acupuncture as a covered health benefit. Conditions such as carpal tunnel syndrome continue to adversely impact firms and acupuncture has become a widely accepted treatment for CTS. In addition, acupuncture has been included in California’s [worker’s compensation](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5619a2.htm) model since 2007.

- **Licensed Acupuncturists provide quality care - in close collaboration with other providers.**
  - The Association of American Medical Colleges predicts a nationwide shortage of 91,500 primary care physicians by 2020. Acupuncturists have the potential to help fill the gaps in the absence of other Primary Care Providers (PCPs) in many parts of the country.\(^11\) Nationwide, hospitals and clinics have

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\(^9\) [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5619a2.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5619a2.htm)

\(^10\) 2007 CDC National Health Interview Survey: Total CAM out-of-pocket expenditures in 2007 were $33.9 billion or 1.5% of total health care expenditures; however, this number represents 11.2% of total out-of-pocket health care expenditures in the United States.

hired acupuncturists to provide care and relief in areas such as pain management, gynecology and oncology.

○ **Acupuncturists may help reduce overall costs of health care.**

  An analysis of over 18,000 claims in New York found that:
  - Acupuncture is an less costly alternative for some medical services and pharmaceuticals
  - Acupuncture use was associated with decreased spending in:
    - Primary Care
    - Outpatient Services
    - Surgery and pharmaceuticals, specifically gastrointestinal and pain medications

  This study suggests that “expenditures on acupuncture may be offset through reductions in other health care utilization.”\(^{12}\)

In conclusion, selective inclusion of acupuncture in the Essential Health Benefits Package will:

1. **Increase patient choice**
2. **Improve access to care**
3. **Increase overall cost-effectiveness of American health care**

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Why Should Acupuncture be Included in the Essential Health Benefits
Submitted to the Institute of Medicine
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May 25, 2011

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Why Should Acupuncture be Included in the Essential Health Benefits

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To be included in the Essential Health Benefits, the health care service must be effective, safe, affordable, and easy to be incorporated into our current medical system without wasting too many resources, especially during this economic situation. Acupuncture is the perfect therapeutic modality to meet all of these demands.

Acupuncture is clinical effective and safe. Its effectiveness is proven by the following and more researches done by scientists and physicians from all around the world, and some statements from FDA, NIH, and WHO. Some of the researches prove that acupuncture is a promising treatment for chronic pain and a wide range of diseases, and more and more of its therapeutic mechanisms are uncovered. While it is effective, acupuncture treatment is also very safe with very low incidence of side effects, and it provides an option to expand conventional medicine to treat ailments for which current interventions are either ineffective or have the undesirable side effects to the patients.

Acupuncture has been a proven treatment for the following conditions.

- “Acupuncture to treat nausea and vomiting in early pregnancy: a randomized controlled trial”, published in Birth 2002 Mar; 29(1):1-9 by Smith C et al. The trial was undertaken at a maternity teaching hospital in Adelaide, Australia, where 593 women less than 14 weeks pregnant with symptoms of nausea or vomiting were studied and the authors concluded that acupuncture is an effective treatment for women who experience nausea and dry retching in early pregnancy.

- “Acupuncture together with cytokine depressing herbs in comparison to injection therapy with steroids in sciatic pain”, published in German in Schmerz 1997 Jun 13:11(3):180-4 by Wehling & Reinecke. 278 patients with chronic pain for at least 3 months were studied. Steroid injection (n=26; 66% pain reduction), acupuncture in combination with herbs (n=230, 62% pain reduction), local anaesthetic injection (n=22, 48% pain reduction). Sole Mepivacain-HCl treatment had significant less pain reduction compared to the other three treatment modalities. The authors concluded that acupuncture in combination with herbs and steroid nerve blocks appear to be an effective and thus recommendable conservative therapy in cases of sciatic pain.

- “Does acupuncture improve the orthopedic management of chronic low back pain--a randomized, blinded, controlled trial with 3 months follow up”, published in Pain. 2002 Oct;99(3):579-87 by Molsberger AF et al. Involving 186 patients with 124 completed the trial, results shown that the pain relief of verum (real) acupuncture + conservative orthopedic treatment (COT) group is significantly superior over the sham+COT and COT alone groups. The authors concluded that acupuncture can be an important supplement of COT in the management of chronic LBP.
Clinical research on the therapeutic effect of the electro-acupuncture treatment in patients with depression”, published in Psychiatry Clin Neurosci 1998 Dec;52 Suppl:S338-40 by Luo et al. In this study, two consecutive clinical studies were conducted (first study involved 29 patients, and second study observed 241 patients). The results from both studies showed that the therapeutic efficacy of EA was equal to that of amitriptyline for depressive disorders (P > 0.05). EA had a better therapeutic effect for anxiety somatization and cognitive process disturbance of depressed patients than amitriptyline (P < 0.05). Moreover, the side effects of EA were much less than that of amitriptyline (P < 0.001). The article suggested that EA treatment was an effective therapeutic method for depressive disorders. Particularly, it was a treatment of choice for depressed patients who were unable to comply with the classic tricyclic antidepressants because of their anticholinergic side effects.

“The analgesic effect of acupuncture in chronic tennis elbow pain”, published in Br J Rheumatol 1994 Dec;33(12):1162-5 by Molsberger et al. The results were statistically significant and it showed that non-segmental verum acupuncture has an intrinsic analgesic effect in the clinical treatment of tennis elbow pain which exceeds that of placebo acupuncture.

“Chronic epicondylitis: effects of real and sham acupuncture treatment: a randomized controlled patient- and examiner-blinded long-term trial”, published in Forsch Komplementarmed Klass Naturheilkd. 2002 Aug;9(4):210-5, by Fink M et al. The results suggest that the selection of real acupuncture points gives better results than invasive sham acupuncture at early follow-up of treating chronic epicondylitis. This additional effect can be interpreted as a specific effect of real acupuncture.

“A randomized trial of acupuncture as an adjunctive therapy in osteoarthritis of the knee”, published in Rheumatology (Oxford) 1999 Apr; 38(4): 346-54 by Berman et al. Seventy-three patients had been evaluated and the researchers concluded that acupuncture is an effective and safe adjunctive therapy to conventional care for patients with osteoarthritis of the knee.

“Acupuncture in stroke”, a study in Norwegian, published in Tidsskr Nor Laegeforen 1998 Mar 30;118(9): 1362-6 by Kjendahl et al showed that there was a significantly greater improvement in the acupuncture treated group than in the control group, both in terms of short term (within 6 weeks) and long term (during the following year).


“Evaluation of acupuncture for pain control after oral surgery: a placebo-controlled trial”, published in Arch Otolaryngol Head Neck Surg 1999 May;125(5)"567-72 by Lao et al. Mean pain-free postoperative time was much longer in the acupuncture group (172.9 minutes) than in the placebo group (93.8 minutes). Mean number of minutes before requesting pain rescue medication was significantly longer in the treatment group (242.1 minutes) than in the placebo group (166.2 minutes). Average pain medication consumption was significantly less in the treatment group (1.1 tablets) than in the placebo group (1.65 tablets). The results are statistically significant. The conclusion was drawn that acupuncture is superior to the placebo in preventing postoperative dental pain.

were considered successful if PD did not occur any more, medication of PD became
unnecessary or PD symptoms did not occur for 2 years after the treatment. The results are
statistically relevant, and the success rate of acupuncture for the treatment of PD symptoms
within 1 year after the treatment is 93.3% in the first group and 3.7% in the placebo group.

- “Non-pharmacological approaches to chronic headaches: transcutaneous electrical nerve
  stimulation, laser therapy and acupuncture in transformed migraine treatment”,
  published in *Neurol Sci* 2003 May;24 Suppl 2:S138-42 by Allais et al. The study was
  concluded with that transcutaneous electrical nerve stimulation, laser therapy and acupuncture
  are proved to be effective in reducing the frequency of headache attacks. Acupuncture showed
  the best effectiveness over time.

- “Needling adenosine receptors for pain relief”, published in *Nat Neurosci*. 2010
  Jul;13(7):783-4, by Zylka MJ. The study found that local activation of adenosine A1
  receptors in mice contributes to the anti-nociceptive effects of acupuncture.

- “Adenosine A1 receptors mediate local anti-nociceptive effects of acupuncture”,
  published in *Nat Neurosci*. 2010 Jul;13(7):883-8 by Goldman N et al, found that adenosine, a
  neuromodulator with anti-nociceptive properties, was released during acupuncture in mice and
  that its anti-nociceptive actions required adenosine A1 receptor expression. Direct injection of
  an adenosine A1 receptor agonist replicated the analgesic effect of acupuncture.

- “Effectiveness of acupuncture for low back pain: a systematic review”, published in *Spine
  found that there is strong evidence that acupuncture can be a useful supplement to other forms
  of conventional therapy for nonspecific LBP.

  adverse events caused by acupuncture treatment by White et al found the risk of a major
  complication occurring to have an incidence between 1:10,000 and 1:100,000, which is
  considered "very low."

- According to NIH, multiple biological responses were demonstrated and supported by
  considerable evidence that acupuncture can influence both central and peripheral nervous
  system, stimulate the releases of brain chemicals such as endorphins, increase immune system
  functioning, improve circulating system, decrease muscle tightness, and bring about
  significant improvement for a variety of diseases.

- FDA reclassified acupuncture needles from class III (investigational) to class II (standard
  medical device) in 1995.

- The NIH Consensus Statement states "one of the advantages of acupuncture is that the
  incidence of adverse effects is substantially lower than that of many drugs or other accepted
  procedures for the same conditions."

- NIH stated acupuncture is useful and recommend coverage of acupuncture provided by
  insurance companies.

- “Acupuncture: Review and Analysis of Reports on Controlled Clinical Trials” from
  WHO website states that acupuncture has been scientifically proven effective on 28 diseases,
  shown proven effectiveness but more proof is needed on 63 diseases, shown some therapeutic
  effects proven by few studies but worth trying because conventional and other therapies can’t
  treat well on 9 diseases.

Acupuncture is cost effective, as supported by the following studies and data.
• **“Addition of acupuncture and self-care education in the treatment of patients with severe angina pectoris may be cost beneficial: an open, prospective study”**, published in *J Altern Complement Med* 1999 Oct;5(5):405-13 by Ballegaard et al. Three control groups were used: (1) published data concerning medical and invasive treatments; (2) an age- and sex matched group obtained from a randomly selected Danish population of 14,000 people; and (3) the 211 patients in this group with angina pectoris symptoms. The estimated cost savings during 5 years were $32,000 (U.S.) per patient, mainly due to a 90% reduction in hospitalization and 70% reduction in needed surgery. Compared to 8% before treatment, 53% of the patients achieved a life without limitations 1 year after treatment, as did 69% after 5 years. No increased risk for myocardial infarction or cardiac death was observed. Please don’t forget that the mentioned estimated saving of $32,000 was from 12 years ago, beside the inflation, the US healthcare spending has been much higher than Denmark.

• **“Carpal tunnel syndrome: clinical outcome after low-level laser acupuncture, microamps transcutaneous electrical nerve stimulation, and other alternative therapies - - an open protocol study”**, published in the *J Altern Complement Med*, 1999 Feb;5(1):5-26 by Branco and Naeser. Pain was significantly reduced after treatments (p < .0001), and 33 of 36 hands (91.6%) result with no pain, or pain was reduced by more than 50%. The 14 hands that failed surgical release, were successfully treated. Patients remained employed, if not retired. Follow-up after 1-2 years with cases less than age 60, only 2 of 23 hands (8.3%) pain returned, but were successfully re-treated within a few weeks. There are potential cost-savings with this treatment (current estimated cost per case, $12,000; this treatment, $1,000). And it’s safe when applied by licensed acupuncturist trained in laser acupuncture.

• According to NIH, during 1998, about three of every 10,000 workers lost time from work because of carpal tunnel syndrome (CTS). The average lifetime cost of carpal tunnel syndrome, including medical bills and lost time from work, is estimated at around $30,000 for each injured worker. From the current market value searched by our clinic, the major consuming device acupuncture needles cost average $0.4 per treatment (12 needles), $6 for a complete course of typical 15 treatments for CTS. The potential cost saving is huge.

• According to an article posted on the website of University of Maryland School of Medicine in Baltimore, about three quarters of people in western countries experience back pain during their lives, more than $90 billion estimated are spent annually on patients with low back pain in the US, and approximately 85% of cases will be defined as nonspecific pain. As indicated in the Yuan paper above, acupuncture can play an important and complementary role along with the standard treatments in treating these patients, thus help to cut down our health care costs.

Acupuncture can be easily incorporated into our current health care system. Different from the conventional intervention which needs more expensive lab testing and more high-priced diagnostic tools before undertaking any treatment, acupuncture is simple yet clinical effective, straight forward and much affordable without many overhead fees. It’s even easier accessible if it is in a setting of private practice office ran by licensed acupuncturists. Almost all patients can receive the acupuncture treatment during their initial visit to the office after a careful exam of their medical history and current condition by the licensed acupuncturist. These advantages of acupuncture demonstrate that it can be efficiently incorporated into our current conventional
medical system to save money and time for both the patients and our medical system. In reality, some hospitals and health centers have already incorporated acupuncture into their systems, and some insurance companies have been providing coverage for acupuncture treatments performed by licensed acupuncturists. According to a 1998 survey of the literatures published in the Archives of Internal Medicine by Astin JA et al, western medical doctors are most likely to refer patients for acupuncture (43%) than for chiropractic (40%) or massage (21%). It should not be difficult to fully incorporate acupuncture into our health care system with so many established and operating current models. If acupuncture can be included in the Essential Health Benefits, it will be much easier accessible to the public and more people will be benefited from it. With its proven effectiveness on pain management, its affordability, and the fact that pain is the most common symptom, acupuncture is the perfect therapeutic modality to help reducing the medical expenses of our healthcare system if it is mandatory health benefit.

Acupuncture contains the collective wisdoms of numerous practitioners and has been practiced and improved over the span of more than two thousand years. The long standing existence of this intervention itself already indicates its effectiveness, practicality and affordability in certain ways. Quarter of the world’s population has been using it.

Acupuncture is simple, effective, safe and affordable. It has been legalized for 36 years in California and been legalized in 45 other states, the relevant regulation laws and its educational system have been established. Hospitals have incorporated acupuncture into their services. More insurance companies cover the expense of acupuncture treatment. It has already been in our medical system, many licensed acupuncturists, certified physicians, dentists and nurses have been practicing it on their patients. As cited in the 1998 Jindal et al paper above, about 2.1 million people used acupuncture during 1997, and only about four percent of the US population used acupuncture at any time in their lives. If acupuncture is fully included in the Essential Health Benefits, with its effectiveness, very low risk of side effect and obvious affordability, it’ll be a valuable complementary therapy to help our system to provide better care and lower costs to our people. Our public health security will be better protected with a more comprehensive health care system.

Sources:

- http://www.ninds.nih.gov/disorders/carpal_tunnel/detail_carpal_tunnel.htm
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- University of Maryland School of Medicine, http://somvweb.som.umaryland.edu/absolutenm/templates/?a=1235