
Unveiling the United States Acupuncture Workforce

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Abstract

Acupuncture was first legalized in Maryland in 1973. By the end of 2009, regulatory legislation had passed in all but six states. The growth of acupuncture is most commonly measured by its well-documented demand as a treatment modality and the rapid increase in the number of licensees. Much less documented is a puzzling stagnation in work opportunities and income. As many as half of all licensees, on graduation and licensure, may be unable to support themselves by working in their chosen profession. However, unlike other well-established complementary and alternative health professions, such as chiropractic and massage, acupuncture is conspicuously absent from the Bureau of Labor and Statistics occupations manual, with only a handful of secondary and incomplete studies available, which together provide an inexact picture of the workforce. In this article, the authors review seven reports that provide limited information including hours worked, income, and practice type. Although data from these published articles are not standard, it can be reasonably concluded from the available information that, over the past decade, 50% of the licensed acupuncture (LAc) workforce is working less than 30 hr weekly; 50% are earning less than \$50,000 on average; and the number of LAc working independently in practice, either in their own office or sharing one, has increased from approximately 75% to 90%. Suggestions are presented for conducting a much needed comprehensive analysis of the acupuncture workforce.

Keywords

acupuncture, workforce, complementary and alternative medicine, integrative medicine

Acupuncture is legally authorized by statute in the United States (US) in 41 states and the District of Columbia (American Association of Acupuncture and Oriental Medicine, 2010). Estimates through 2009 vary between approximately 16,852 (Acupuncture Density Map, September, 2009) and approximately 28,761 licensed acupuncture (LAc) practitioners in the nation. The latter figure was compiled by Keith Zabik in 2009. Zabik combined personal research with other source material

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provided by the National Acupuncture Foundation in 2005 and Joshua de Groot in 2007 (Wolfson, 2010).

In terms of regulation and demand for treatment, acupuncture appears to be well established. The first states to license acupuncture were Maryland, Nevada, and Oregon in 1973. By the end of 2009, all but six states had passed legislation authorizing acupuncture practice and regulation. Regarding treatment, there is an ample body of research on acupuncture efficacy with certain disease conditions (Cheng 2009; Ezzo et al., 2006; Linde et al., 2009; Vas & White, 2007); mechanisms of action (Cabioglu & Surucu, 2009; Crisostomo, Li, Tjen-A-Looi, & Longhurst, 2005; Han, 1998; Kaptchuk, 2002; Zhou, Fu, Tjen-A-Looi, Li, & Longhurst, 2005), along with well-documented studies describing why patients seek out acupuncture services (Bonafede et al., 2008; Burke, Upchurch, Dye, & Chyu, 2006; Gray et al., 2002;). Despite the establishment of a literature on acupuncture research and utilization, the Bureau of Labor and Statistics (BLS) does not list acupuncturist as a profession and, therefore, does not track occupational data. The National Certification Commission for Acupuncture and Oriental Medicine (NCCAOM) has stated that it is committed to providing consistent data that will eventually qualify the acupuncture profession for BLS listing. A 2008 NCCAOM report (Ward-Cook & Hahn, 2010) is intended to provide a baseline for subsequent reports, which would satisfy at least one criterion—trend data—for BLS listing.

The Acupuncture Workforce: Imprecise and Infrequent Data

Descriptions of the acupuncture workforce are at best a patchwork quilt of data sources. A comprehensive workforce survey has never been published. Acupuncturist surveys that have been undertaken collected workforce data as a secondary objective. The two most recent surveys (California Acupuncture Board Occupational Analysis, 2009; Ward-Cook & Hahn, 2010) were content validations for licensing/certification exams. Three articles were published in the health care literature between 1999 and 2006, which included workforce information, none of which held the primary goal of describing the acupuncture workforce (Cherkin et al., 2002; Kuo, Christensen, Gelberg, Rubenstein, & Burke, 2006; Lee, Highfield, Berde, & Kemper, 1999). When the data for the three articles and the two most recent surveys are aggregated, a disheartening portrait of the workforce emerges.

A 2005 report posted online by the National Acupuncture Foundation showed year-to-year growth in the number of licensed practitioners from 1992 to 2004. The picture of a robust profession experiencing growth was easily discernible. Data for 2005 through 2009 aggregated by Zabik (Wolfson, 2010) on a state-by-state basis, from mostly regulatory sources, showed that licensee growth had slowed considerably (see in Figure 1).

The profession experienced 12 years of remarkable growth in total licensees through 2004. Over the following 5 years, the curve flattened. It would be helpful to have data available over the same period showing how income has progressed, or how many licensees might have left the field, so that we might compare the growth to professional viability. Unfortunately, the only other workforce data that have been routinely collected over time are hours worked, which limits comparisons across appropriate factors.

In this article, we review seven reports that provide limited information including hours worked, income, and practice type. Unfortunately, the data reported are not uniform across the articles and surveys. Three reports have been published in academic journals while the other four are available through two regulatory agencies, the California Acupuncture Board (CAB) and the NCCAOM. Although data from these published articles are not standard, it is possible to get a sense of the employment picture.

Unemployment and underemployment among acupuncture program graduates is as alarming as it is underreported. The two most recent reports cover findings from 2008 surveys—one undertaken by

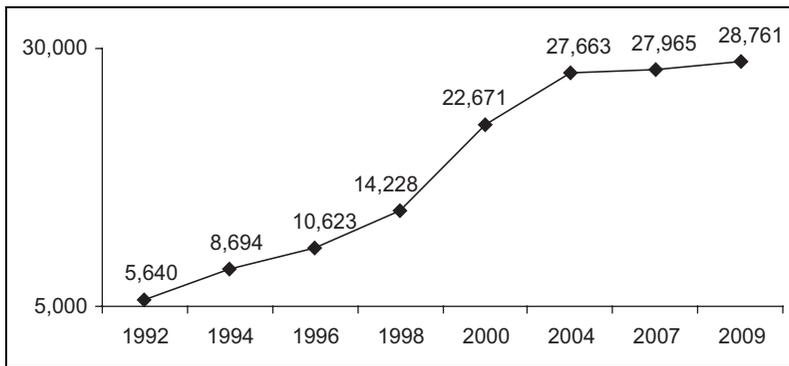


Figure 1. Total LACs 1992 through 2009. Note: LACs = licensed acupuncturists.

the CAB (CAB Occupational Analysis, 2009) and the other by the NCCAOM (Ward-Cook & Hahn, 2010). Both surveys follow on earlier agency efforts (Lawrence, Fabrey, Cogdill, & Kelley, 2003; Okicich, Ferreira, Hooper, & Hertz, 2001). The two most recent surveys are notable because of their large samples and their use of sophisticated sampling strategies. Unfortunately, the CAB surveys inexplicably omitted income data. The earlier 2001 NCCAOM survey, which was randomized but not stratified, actually had the largest response, with 1,265 respondents. NCCAOM attributed this high response rate to offering a 10% fee reduction to respondents when they recertified. However, this recruitment strategy not only yielded a high response rate it also resulted in an obvious bias in the sample—the obvious underrepresentation of acupuncturists from California, which comprises approximately 40% of national licensees. Because NCCAOM was mostly active and influential in regions other than the West, the incentive was of lesser interest in a state that is regulated by an independent regulatory board that does not defer to national accreditation. The 2001 sample from the West accounted for only 18% of the national sample—approximately half the actual figure. The 2008 survey, conducted without an incentive, was more accurate at 35.1% of respondents.

The most widely read report on the acupuncture workforce, published by Dower in 2003, relied on 2003 CAB licensing data. The author raised red flags about employment prospects for a growing workforce: “The demand for acupuncture appears to be almost exclusively for private consultations. There is a very limited job market for acupuncturists, with the only significant employers being acupuncture schools and drug treatment programs.... Opportunities for acupuncturists to participate in the health care system in the same way other providers do are limited” (Dower, 2003, pp. 4, 7).

A widely referenced first-of-its-kind workforce study assessed pediatric care among 140 LACs in the Boston area (Lee et al., 1999). The study painted a hopeful picture of acupuncture income prospects. One hundred forty survey respondents reported a mean of 39 weekly visits (ranging from 15 to 63) with mean reimbursement on follow-up visits of \$57 ($SD = \12). However, results were skewed by a cohort of 17 pediatric acupuncturists, including two physicians, who practiced in Boston’s wealthier suburbs; it was reported that this subgroup saw a mean of 58 patients weekly ($SD = 35$). Physician acupuncturists primarily earn incomes based on their MD and not their LAC (acupuncture license). The median would have been a better measure, given the wide range and large standard deviation. Thirty-nine visits a week at \$57 each calculates to \$8,892 per month. The mean number of visits in 1 week was approximately 40% higher than median levels of visits reported for acupuncturists and naturopaths in a 2002 CAM workforce publication (Cherkin et al., 2002).

Cherkin and colleagues compared physician practice characteristics with that of the four largest CAM groups—LACs, chiropractors, massage therapists, and naturopathic physicians; for each

profession, practitioners were compared for one northeastern and one western state. Researchers identified random statewide samples of 331 acupuncturists, 180 from Massachusetts and 151 from Washington. About one third of providers had no valid telephone number or was not in practice and were therefore eliminated from the respondent pool, resulting in 101 and 116 interviewees, respectively, from the 2 states. Median patient visits in a typical week were 25 and 20, and mean visits were 33.7 and 27, from the two states. If outliers are eliminated from the data of Lee, Highfield, Berde, and Kemper (1999), the outcomes align with the study of Cherkin et al. Mean visits found by Cherkin were fewer than found by Lee. They are also a more valid estimate of “average” workload because the sample was larger, physician providers were not included, and acupuncturists were drawn from the same region—Massachusetts—as Lee’s study.

A RAND-affiliated study by Kuo and colleagues (2006) involved a survey of 276 California acupuncturists (data were collected in 2002–2003). Respondent characteristics included gross income and full- or part-time work, information rarely collected or reported for acupuncturists. Half of those surveyed earned less than \$50,000 annually, 38% earned less than \$35,000 (federal poverty level for a family of three), and 43% could not generate full-time work.

The findings of Kuo et al. are consistent with data collected in 2008 by NCCAOM (Ward-Cook & Hahn, 2010). Sixty percent of 712 respondents worked fewer than 30 hr weekly. The most recent available workforce data were collected in 2008 as part of the CAB Occupational Analysis (2009). The survey randomly sampled 553 LAcS in California, stratified to appropriately represent Asian ethnicities and communities. The report found one third worked 40 or more hours weekly while 28% worked less than 20 hr per week. These two most recent surveys are noteworthy because they have the largest samples and used sophisticated stratified random sampling techniques to ensure results were representative at the national and state levels. Table 1 summarizes the five published acupuncture workforce studies, discussed above.

Meaningful Comparisons

Growth in the number of acupuncture licensees has drastically slowed in the past decade from more than 30% annually from the 1990–2001 to approximately 2.8% in 2008–2009. At the same time, available data on practice patterns, such as income, hours worked in a given week, and whether one works independently, appear to have remained unchanged or even diminished since 2001/2003 comparing the early CAB and NCCAOM surveys to their predecessors.¹ Recognizing that data are inconsistent, that is, the same variables were not collected across the four surveys and the three published reports, we suggest that the following conclusions can be drawn regarding the LAc workforce over the past decade:

- 50% are working less than 30 hr weekly;
- 50% are earning less than \$50,000 on average; and
- the number of LAcS working independently in practice, either in their own office or sharing one, has increased from ~75% to ~90%.

Figure 2 presents trend data for the single variable collected across all surveys: percentage working less than and more than 30 hr weekly.

More LAcS appear to be working less than 30 hr by the end of the decade. The impact of a declining trend in hours worked reaches beyond income. The NCCAOM national survey of 712 acupuncturists reported that half the acupuncturists in their sample retained 82% of their debt, borrowing, on average, \$55,948 to finance training while retaining \$45,891 at the time they were surveyed (Ward-Cook & Hahn, 2010).

Table 1. Published U.S. Studies on the U.S. Acupuncture Workforce: 1999–2010

Study	Sample	Response Rate	Outcome Measure	Mean/Median	Comment
1 Lee et al. (1999)	N = 140; "cross sectional" for Boston only	Not applicable	Number of visits per week; follow-up fee	Mean visits = 39 ± 24; mean fee = \$54 ± \$14	17 acupuncturists averaged 58 ± 35 visits weekly; no sampling stratification or consideration of outliers
2 Cherkin et al. (2002)	N = 217 total; 91 in Massachusetts; 89 in Washington.; random sample	Not available	Number of visits per week	Mean: Massachusetts = 33.7 ± 24.7; Washington = 27 ± 21.1; Median: Massachusetts = 25; Washington. = 20	34% and 37% of original sample eliminated because they did not have a phone number or were not in practice
3 Kuo et al. (2006)	N = 276 California only; random selection	"Adjusted" response rate = 84%	Full- or part-time work; annual income	57% Work full-time; 43% part-time; 50% earn <\$50,000/year.; 38% earn <\$35,000/year	Data collected in 2002–2003; survey mailed to 400 licensees randomly selected from pool of 4,914 acupuncturists
4 NCCAOM Job Task Analysis (2010)	N = 712 National; stratified random sample	Response rate = 17.8%	Full- or part-time work; annual income	60% work part-time (<30 hr weekly); 70.1% earn <\$60,000 weekly)	36% of sample from California; data collected in 2007
5 CAB Occupational Analysis (2009)	N = 553 Statewide; stratified random sample	Response rate = 18.2%; inclusion rate = 14.1%	Full- or part-time work; practice type and setting	32% work >40 hr weekly; 38% work >20 and <40 hr; 28% work <20 hr	Data collected in 2008

Note: CAB = California Acupuncture Board; NCCAOM = National Certification Commission for Acupuncture and Oriental Medicine.

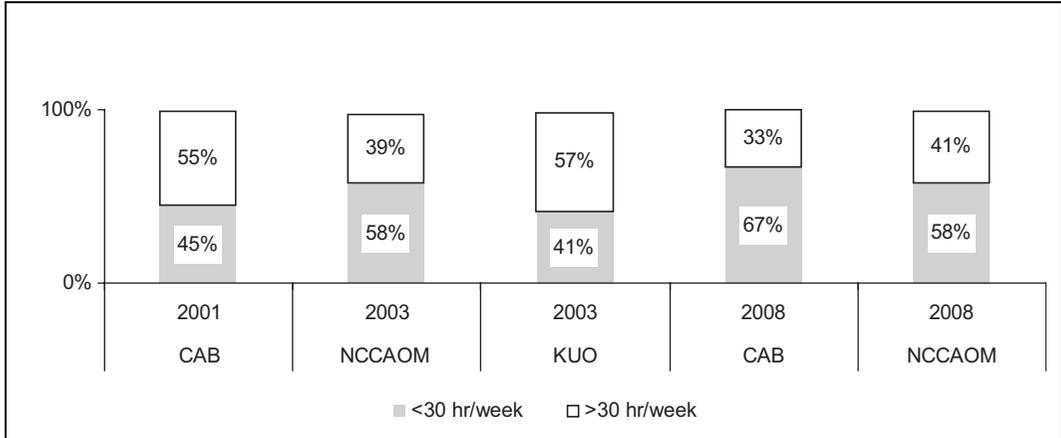


Figure 2. Percentage acupuncturists working <30 or >30 hr weekly. Note: CAB = California Acupuncture Board; NCCAOM = National Certification Commission for Acupuncture and Oriental Medicine.

Collecting Useful Workforce Data

Much more needs to be known about the acupuncture workforce. The sources of published information currently available are woefully inadequate. Methodological problems with the earliest studies (i.e., failure to account for outliers, randomized sampling without stratification, lack of standard variables, and generally small samples) have been described. To understand what is actually taking place in the profession, a first-of-its-kind standard workforce survey that is solely concerned with information about the acupuncture workforce must be conducted.

A quiet concern within the profession is the so-called failure rate of new graduates/licenses. One respondent to the 2003 NCCAOM survey commented “How many acupuncturists are full time, head of household with families making an income? This is the real issue. If 70% of the graduates fail in the first three years, how successful are we?” (Lawrence et al., 2003, comment #50, Appendix E). Cherkin et al. (2002) noted unusual trouble contacting their sample, reporting 34% and 37%, respectively, of their original sample had to be eliminated because either they did not have a phone number or were not in practice. Given that under- and unemployment rates approach 50%, more information should be gathered about those LAcS who give up their practices.

Although the NCCAOM has stated its intention to collect and provide workforce trend data, the question is whether the data being collected as represented by the 2010 NCCAOM Job Task Analysis report will suffice. We think not. There are at least two basic problems: (a) the data being currently collected are inadequate to fulfill the requirements of the BLS and (b) any relevant data that have been collected as part of the 2010 report must be presented in a transparent manner. Essential data for BLS listing are described in the *BLS Occupational Outlook Handbook*. A partial list of required BLS information that must be consistently collected year after year, by state and metropolitan region, includes training, employment, job outlook, projections, earnings, and wages. As regards transparency, the choice made by the NCCAOM in its 2010 report (Ward-Cook & Hahn, 2010) regarding its description of income data appears to obfuscate or to put a positive spin on the outcome. The authors report that 70.1% of respondents earn less than \$60,000 as a way of pointing out that the remainder earns more, essentially throwing a veil across the data. Earnings should be reported proportionally in \$10,000 increments for the entire sample. Another data gap is the absence of any information that describes workforce characteristics for Chinese and Korean practitioners who comprise approximately 20% of all LAcS nationwide and twice that in California. Workforce trends for Asian practitioners are one of the most inexplicable subjects in the acupuncture field. For

example, the NCCAOM numbers declined from 24.4% nationwide in 2003 (Lawrence et al. 2003) to 21.6% in 2008 (Ward-Cook & Hahn, 2010), with the trend reversed in California at 38.3% in 2001 (Okicich et al., 2001), and 43.2% in 2008 (CAB Occupational Analysis, 2009). Barring a substantial migration of LAcS from other states to California, one can only wonder what might explain this phenomenon.

Low levels of employment translate to diminished access to care at a time when demand for acupuncture treatment is growing. Pressures are building within as well as outside the profession to fundamentally improve opportunities for acupuncturists to develop a career in health care. Leadership at various levels is seeking a path whereby the profession might become more integrated with the conventional health care system. There are proposals to create a tiered workforce reflected in training programs that choose to focus on mainstream medicine training and those that choose to remain focused on metaphysical or traditional systems (Stumpf, Kendall, & Hardy, in press). Without more information, proposals to effectively restructure the profession are speculative at best.

If acupuncture is to exist on par with CAM professions such as massage and chiropractic, and become part of an integrated health care system, then a serious inquiry that focuses on income, practice settings, lapsed licenses, and Asian practitioners as a subset, is essential for a transparent picture and better understanding of the entire acupuncture workforce.

Note

1. CAB and NCCAOM conducted earlier randomized, non-stratified surveys in 2001 and 2003, respectively.

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