

Educational Recommendations for Improved Content and Added Hours for 3,000 hour AB 1943 Requirement

The growing use of alternative health care approaches in the United States, especially involving acupuncture and Oriental medicine (OM), indicates that educational standards should have undergone a corresponding improvement, over time, to assure that the safety and welfare of the public is continually served at the highest level. Amazing as it may seem the California training requirements of 2,348 hours for Licensed Acupuncturists has remained unchanged for the past 18 years. The California Acupuncture Board (CAB) and OM profession have been frustrated by an organized opposition to systematically improving standards to keep abreast of the perceived need as result of increased demands for services. A legislative solution (Chu: AB 1943) was sought to resolve this problem which proposed increasing training to 4,000 hours. However, using hours as measure is somewhat arbitrary since training content is far more critical.

The CAB impaneled a Competencies Task Force (CTF) in 2002 to develop rational recommendations for improving educational standards. The CTF included California practitioners and schools, plus organizations and individuals including non-practitioners from outside the state which have always been in opposition to improving California standards. The range of total CTF hours related to specific competencies was from 3,150 to 4,050 hours with a resulting average of 3,600 hours. It seemed reasonable to the California profession to compromise with 3,600 hours; however, the hours in AB 1943 were arbitrarily reduced to 3,000 with a possible increase to 4,000 hours to occur several years in the future.

Standards Need Further Improvement

The 3,000 hour requirement which goes into effect on January 1, 2005 doesn't represent a real improvement since many of the California schools are already requiring training at this level or even higher. Although many of the schools have steadfastly opposed increasing the state mandated training hours, they have systematically increased their own hours. These increased hours are basically unspecified by the California Department of Consumer Affairs, and not covered by any accreditation requirements. This has been a chaotic situation where schools increase their training hours without any guarantee that uniform standards have been applied. This begs an obvious question as to why schools have significantly increased their training hours above what the state requires.

It would seem reasonable that training hours should be increased at this time to around 3,600 hours since this is the average of the CTF effort. The 3,600 hour also compares favorably with the training provided in the Chinese medical schools of China when all the courses are viewed on the same basis. The Chinese training programs are considered as the world gold standard. The 3,600 hour curriculum would represent a minimum standard. Further, this minimum standard should require new entering students to have completed at least two years of college, including about 450 hours of prerequisite science courses. The Chinese schools accept students directly from high school and they receive introductory and prerequisite training that is somewhat equivalent to two years college before the study of Chinese medicine.

The recommended 3,600 hour curriculum, CTF efforts, and that of the Chinese schools need to be compared on the same basis. Preparatory and prerequisite training, biomedical sciences, Oriental medical sciences, herbal medicine, clinical medicine, clinical clerkship, and non-credit electives all need to be viewed in these particular categories. Chinese medicine schools also teach surgery, emergency medicine, and bone setting which are not included in the scope of OM practice in the United States. So, these hours have to be subtracted including some portion (20%) of the clinical clerkship hours to have a one-for-one comparison. Two very well known Chinese medical colleges were selected for comparisons that are located in Beijing and Chengdu, China. Table 1 provides a summary comparison of the present CAB requirement (column 1), AB 1943 (column 2), 3,600 hour minimum standard (column 3), Beijing school (column 4), Chengdu school (column 5).

Table 1. Comparison of educational standards for Oriental medicine professional curriculum in California and China compared with a 3,600 hour minimum standard.

	1	2	3	4	5
	CAB	CAB AB 1943	3,600 hour Minimum	Beijing, China	Chengdu, China
College English			Prereq.	Forn. Lang.	Forn. Lang.
Mathematics			Prereq.	Prereq.	Prereq.
Biology	X	X	Prereq.	Prereq.	Prereq.
Chemistry (inorganic and organic)			Prereq.		
Physics	X	X	Prereq.	Prereq.	
Anatomy	X	X	60	90	96
Physiology	X	X	75		72
Endocrinology			45		
Medical Biochemistry	X	X	45	117	72
Medical Microbiology			30	45	54
Neuroanatomy			30		
Embryology				45	36
Parasitology				18	
Pathology & Pathophysiology	X	X	90	90	72
Behavioral Medicine	X	X	30		
Nutrition (and vitamins)	X	X	45		
Pharmacology		(1)	(1)	45	72
Botany/Pharmacognosy		X	(2)		
Biomedical Science Total	400	350	450	450	474
Oriental Medicine	660	805	800	936	1004
Herbal Medicine	300	450	450	207	198
Clinical Medicine	188	400	400	324	330
Clerkship	800	950	1440	1792 (3)	1538 (3)
Electives		45	60		
Total Program Hours	2348	3000	3600	3709	3544

(1) Included in clinical medicine and case management studies in the form of pharmacological assessment, and drug and herb interactions, respectively.

(2) Included as stand-alone course in herbal medicine study

(3) Original hours reduced by 20% by deleting estimated time for surgery, bone setting, and emergency care not included in the curriculum of United States OM schools.

Comparison with AB 1943

The 3,600 hour minimum standard Oriental medicine didactic training (1,250 hours) is basically identical with the recommended 3,000 hour AB 1943 curriculum (1,255 hours), with major differences in prerequisite and biomedical sciences training. The 3,600 curriculum requires a minimum of two years college that includes approximately 450 hours for English, college algebra, and sciences (See Table 2). Biomedical sciences for the 3,600 hour training program are 450 hours compared to 350 hours for AB 1943. The most significant difference in the 3,600 hour program is in the clinical clerkship where 1,440 hours plus 60 hours electives are recommended compared to 950 hours with a 45 hour elective for the AB 1943 recommendation. Increased clinical clerkship hours are essential to assure that new graduates will have superior skills and be able practice independently or work within an integrated medical setting. This increase in clinical clerkship also compares favorably with the adjusted hours for the two Chinese medical colleges.

Comparison with Beijing and Chengdu Colleges

A detailed comparison between the Beijing (column 2) and Chengdu (column 3) Colleges and the 3,600 hour curriculum (column 1) is provided in Table 2. After segregating the categories including introductory training, prerequisite courses, and non-credit electives, and subtracting training and clinical efforts associated with surgery, emergency care, and bone setting, the resulting hours for Beijing and Chengdu total 3,709 and 3,544 hours, respectively. Introductory training, prerequisite courses, and biomedical sciences compare very well for Beijing, Chengdu, and the 3,600 hour program. The Oriental medical sciences and herbs are 1,250 hours for the 3,600 hour curriculum compared to 1,143 and 1,202 hours for Beijing and Chengdu, respectively. The difference is result of 450 hours of didactic herbal training for AB 1943 recommendation and the 3,600 hour program, while the Beijing and Chengdu schools offer 207 and 198 hours respectively. The reason for the lower number of herbal medicine hours is that the Chinese schools have a strong emphasis on this area during their clinical clerkship program. Reducing the clinical clerkship hours for the Chinese schools by 20% to account for time devoted to surgery, trauma and emergency care, and bone setting, results in an equivalent of 1,792 and 1,538 hours respectively for the Beijing and Chengdu, compared to 1,440 hours for the 3,600 hour program. The 3,600 hour minimum standard and the Chinese schools also offer classes that would normally be considered as non-credit electives. For the Beijing and Chengdu schools this consists of 279 and 300 hours respectively.

Recommendations

The California professions have long sought to continually improve training requirements over time to keep abreast of demands for services that protect the public safety and welfare. There is wide consensus and agreement among these professional organizations on the proposed 3,600 hour minimum standard contained herein. These recommended hours address certain possible training deficiencies determined by survey studies involving graduates of California OM schools. It is recommended that the proposed 3,600 hour program be implemented in place of the 3,000 hour AB 1943 requirement. This would establish a uniform set of criteria that will lead to graduates with superior skills in order to safeguard the public's safety and welfare.

Table 2. Detailed comparison of recommended 3,600 hour curriculum standards with the professional Chinese medicine colleges in Beijing and Chengdu including prerequisite and introductory training.

1	2	3
3,600 hour Standard	Beijing, China	Chengdu, China
Introductory Training		
60 semester or 90 quarter units of college level training including prerequisite courses noted below. Approximate hours not including the prerequisite classes: (Approximately 450 hours)*	Basic Law 36 General Ethics 18 Revolutionary History of China 54 Marxist Philosophy 54 Contemporary Capitalism 54 Socialist Construction 54 Physical Education 144 (360 hours)	Basic Law 36 General Ethics 18 Chairman Mao's Theory 32 Politics & Policy 122 Philosophy 54 Economics 36 National Defense 36 Physical Education 140 (474 hours)
Prerequisites		
English College Algebra Biology Inorganic Chemistry Organic Chemistry Physics (450 hours)	Foreign Language 288 Biology 90 Medical Biology 45 Biomedical Physics & Electrical Engineering 54 (477 hours)	Foreign Language 280 Advance Mathematics 48 Biology 48 Medical Biology 48 Data Base 48 (472 hours)

1	2	3
3,600 hour Standard	Beijing, China	Chengdu, China
Biomedical Sciences		
Anatomy Physiology Endocrinology Medical biochemistry Medical microbiology Neuroanatomy Pathology and pathophysiology Behavioral medicine Nutrition (Including vitamins) (Pharmacology) (1) (Botany/ Pharmacognosy) (2) 450 Hours	Anatomy 90 Medical biochemistry 117 Medical microbiology 45 Embryology 45 Parasitology 18 Pathology 90 Pharmacology 45 450 Hours	Anatomy 96 Physiology 72 Medical biochemistry 72 Medical microbiology 54 Embryology 36 Pathology 72 Pharmacology 72 474 Hours
Oriental Medical Sciences		
Oriental Medicine Theory 150 Acupuncture 200 Internal & General Medicine 250 Orthopedics 200 800 hours	TCM Basic Theory 90 TCM Diagnostics 99 Acupuncture Pathways 63 Acupuncture Nodes 90 Needling Techniques 72 Acupuncture Laboratory 90 Acupuncture Treatment 144 TCM Internal Medicine 36 TCM Gynecology 54 TCM Pediatrics 36 TCM Orthopedics 63 Massage 99 936 hours	TCM Basic Theory 80 TCM Diagnostics 90 Acupuncture Basic Theory 108 Acupuncture Laboratory 64 Acupuncture Treatment 96 TCM Dermatology 54 TCM Gynecology 54 TCM Internal Medicine 144 TCM Pediatrics 54 TCM Ophthalmology 36 TCM Orthopedics 72 Massage Theory 72 Massage Treatment 80 (TCM Emergency Care 48) 1004 hours
Herbal Medicine		
Botany Herbal Medicine Herbal Formulary 450 hours	Herbal Medicine 108 Herbal Formulary 99 207 hours	Herbal Medicine 108 Herbal Formulary 90 198 hours
Clinical Medicine		
Standard patient assessment and diagnosis 240 Case management 90 Evidence based methods 30 Public health 40 400 hours	Basic Western Diagnosis 144 Western Internal Medicine 126 Western Neurology 36 Medical Ethics 18 (Western Surgery 63) 324 hours	Basic Western Diagnosis 90 Western Internal Medicine 90 Western Neurology 96 Medical Ethics 54 (Radiology 36) (Western Surgery 63) 330 hours
Clinical Clerkship		
Clinical Observation 160 Supervised Practice 1 300 Supervised Practice 2 300 Monitored Practice 680 Electives 60 1500 hours	Clinical Rotations 400 One Year Internship 1840 (20% of Clerkship Hours) (3) 1792 hours	One Year Internship 1920 (20% of Clerkship Hours) (3) 1538 hours

1	2	3
3,600 hour Standard	Beijing, China	Chengdu, China
Non-Credit Electives		
Medical Statistics Medical Specialties Research Methods Huangdi Neijing Shang Han Lun Wen Bing Jin Gui Qigong	Medical Statistics 36 Classical TCM Literature 126 Shan Han Lun 72 Qigong 45 (279 hours)	Medical Statistics 36 TCM Literature/Document Research 36 Acupuncture Literature 48 Jin Gui 36 Wen Bing/Shang Han Lun 90 Huangdi Neijing 54 (300 hours)
Total Curriculum		
3,600 hours	3,709 hours	3,544 hours

*Hours and courses contained in parentheses are not included in the total hours.

- (1) Included in clinical medicine and case management studies in the form of pharmacological assessment, and drug and herb interactions, respectively.
- (2) Included as a stand-alone course in the herbal medicine study.
- (3) Original hours reduced by 20% by deleting estimated time for surgery, bone setting, and emergency care not included in the curriculum of United States OM schools.

The 3,600 hour curriculum assures a consistency between subjects that are taught, skills developed in clinical clerkship, and the disorders that new graduates are likely to encounter when first entering practice. Once the 3,600 hour program is in place it will naturally grow if public needs require it. The structure of the curriculum allows the ability for rational increase in hours of the three categories of biomedical sciences, oriental medical sciences (not including herbal medicine), and clinical medicine. If indicated, the clinical clerkship hours could also be increased in the future as well. Increased hours would normally be introduced, over time, driven by specific needs as determined by the California Oriental medical profession. See Table 3 for an example of possible future increases for a 4,000 hour program.

Table 3. Comparison of 3,600 hour recommended curriculum with possible additions for a 4,000 hour program.

1	2	3	4
Curriculum	3,600 hour Program	+ hours	4,000 hour Program
Biomedical Sciences	450	50	500
Oriental Medical Sciences	800	150	950
Oriental Medicine Theory	150	50	200
Acupuncture	200	50	250
Internal & General Medicine	250		250
Orthopedics	200	50	250
Herbal Medicine	450		450
Botany			
Herbal Medicine			
Herbal Formulary			
Clinical Medicine	400	150	580
Assessment and diagnosis	240	100	340
Case management	90	50	140
Evidence based methods	30	30	60
Public health	40		40
Clinical Clerkship	1,500		1,520
Observation and Clerkship	1,440		1,440
Electives	60	20	80
Total Hours	3,600	+400	4,000