EDUCATING PRIMARY CARE CHIROPRACTIC PHYSICIANS

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INTRODUCTION

The Council on Chiropractic Education (CCE), the U.S. Department of Education's specialized accrediting agency for chiropractic education, has established standards for education of chiropractic physicians that include specific reference to primary care. In the Forward to the Standards, the following statement appears: "A doctor of chiropractic is a primary care physician and clinician whose purpose, as a practitioner of the healing arts, is to help meet the health needs of individual patients and of the public, giving particular attention to the structural and neurological aspects of the body. . . . As a gatekeeper for direct access to the health delivery system, the doctor of chiropractic's responsibilities as a primary care physician include wellness promotion, health assessment, diagnosis and the chiropractic management of the patient's health care needs. When indicated, the doctor of chiropractic consults with, comanages, or refers to other health care providers" (1). Section H of the CCE standards charge the educational programs with the following responsibility: "DCPs accredited by the COA of the CCE prepare students to be primary care chiropractic physicians serving as a portal of entry for patients to access illness and wellness-related care" (1). The CCE Standards for accreditation ensure that all doctor of chiropractic degree programs meet the minimum educational expectations of a primary care provider curriculum. The adoption of the "primary care physician and clinician" status by the CCE has been a relatively new development and the many chiropractic institutions and programs within the U.S. are at varying levels of implementation. In some cases, there has been marked resistance to the primary care status.

As has been indicated by other speakers at this summit meeting, there are many different definitions of primary care. The Institute of Medicine (IOM) definition is probably the simplest: "Primary care is the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community" (2). The IOM definition does not stipulate which health-care providers can be classified as primary-care clinicians. This can be contrasted with the definition provided by the American Academy of Family Physicians, which differentiates between primary-care physicians (M.D. and D.O. only) and limited primary-care providers (which include nurse practitioners, physician assistants, or health-care providers working in close consultation with a primary-care physician (3). In this paper, no attempt will be made to define a primary-care clinician, but instead we will look at the educational needs of training these providers.

DISCUSSION

Other than the CCE Standards, there has been no national effort to establish curricular objectives for chiropractic education. Although the Standards evolved partly from work done by subcommittees with representation from chiropractic institutions, it can be argued that the CCE Standards are those of an independent accrediting body and are not a consensus document developed by the chiropractic educational community. That there is no such consensus document is most likely a reflection of the disparate philosophies held by the various institutions. In contrast, the American Association of Medical Colleges (AAMC) developed and published in 1998 guidelines for medical student education (4). These guidelines establish the learning objectives for the medical school curriculum.

Notably missing from the CCE Standards (including the clinical competencies incorporated within that document) is any mention of specific diseases or disorders that the programs are expected to include in the curriculum. Again, this is most likely the result of philosophical differences between programs, with some programs staunchly opposed to the concept that chiropractors "treat" illnesses.

It is recognized that certain elements are common to many definitions of primary care. These elements include: wellness promotion, prevention of illness, diagnosis and management of conditions common in ambulatory patients, coordination and management of healthcare resources, and interaction with other healthcare providers. Any educational program for primary-care physicians must minimally incorporate these elements into the curriculum.

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TABLE 1
45 MOST FREQUENT PRIMARY DIAGNOSES TO FAMILY PHYSICIANS. NATIONAL CENTER FOR HEALTH STATISTICS. NATIONAL AMBULATORY MEDICAL CARE SURVEY. 2000

RANK	NUMBER OF VISITS (IN THOUSANDS)	RELATIVE % (OF THE TOP 45 DIAGNOSES)	DIAGNOSIS
1	21,926	10.5%	ESSENTIAL HYPERTENSION
2	13,404	6.4%	DIABETES MELLITUS
3	9,600	4.6%	DISORDERS OF LIPID METABOLISM
4	8,174	3.9%	ACUTE URI, MULTIPLE OR UNSPECIFIED SITE
5	8,143	3.9%	GENERAL MEDICAL EXAM
6	7,725	3.7%	GENERAL SYMPTOMS
7	6,954	3.3%	CHRONIC SINUSITIS
8	6,888	3.3%	OTHER UNSPECIFIED DISORDERS OF THE BACK
9	6,452	3.1%	ACUTE PHARYNGITIS
10	5,790	2.8%	ALLERGIC RHINITIS
11	5,748	2.8%	HEALTH SUPERVISION OF INFANT OR CHILD
12	5,471	2.6%	FOLLOW-UP EXAMINATION
13	5,268	2.5%	BRONCHITIS NOT SPECIFIED AS CHRONIC OR ACUTE
14	5,256	2.5%	SUPPURATIVE AND UNSPECIFIED OTITIS MEDIA
15	5,073	2.4%	DEPRESSIVE DISORDER, NOT ELSEWHERE CLASSIFIED
16	4,613	2.2%	SYMPTOMS OF RESPIRATORY SYSTEM AND CHEST
17	4,480	2.2%	NEUROTIC DISORDERS
18	4,360	2.1%	SPECIAL INVESTIGATIONS AND EXAMINATIONS
19	4,401	2.1%	OTHER DISORDERS OF URETHRA AND URINARY TRACT
20	4,036	1.9%	OSTEOARTHROSIS AND ALLIED DISORDERS
21	3,917	1.9%	DISEASES OF ESOPHAGUS
22	3,615	1.7%	OBESITY AND OTHER HYPERALIMENTATION
23	3,334	1.6%	SPRAINS AND STRAINS OF OTHER PARTS OF BACK
24	3,320	1.6%	OTHER FORMS OF CHRONIC ISCHEMIC HEART DISEASE
25	3,238	1.6%	OTHER AND UNSPECIFIED JOINT DISORDERS
26	3,149	1.5%	OTHER DISORDERS OF SOFT TISSUES
27	3,037	1.5%	CONTACT DERMATITIS AND OTHER ECZEMA
28	2,925	1.4%	ACUTE BRONCHITIS AND BRONCHIOLITIS
29	2,910	1.4%	SYMPTOMS INVOLVING SKIN, NAILS, HAIR
30	2,888	1.4%	OTHER NONSPECIFIC ABNORMAL FINDINGS
31	2,692	1.3%	DISEASES OF SEBACEOUS GLANDS
32	2,653	1.3%	OTHER SYMPTOMS OF ABDOMEN AND PELVIS
33	2,599	1.3%	DISORDERS OF EXTERNAL EAR
34	2,537	1.2%	VIRAL AND CHLAMYDEAL INFECTIONS—UNSPECIFIED
35	2,492	1.2%	ACUTE SINUSITIS
36	2,345	1.1%	SYMPTOMS INVOLVING THE HEAD AND NECK
37	2,277	1.1%	ACQUIRED HYPOTHYROIDISM
38	2,215	1.1%	NORMAL PREGNANCY
39	1,986	1.0%	GASTRITIS AND DUODENITIS
40	1,982	1.0%	CHRONIC AIRWAY OBSTRUCTION
41	1,982	1.0%	OTHER AND UNSPECIFIED ARTHROPATHIES
42	1,689	0.8%	NONSUPPURATIVE OTITIS MEDIA AND EUSTACHIAN TUBE DISORDERS
43	1,629	0.8%	DISORDERS OF CONJUNCTIVA
44	1,445	0.7%	CARDIAC DYSRHYTHMIAS
45	1,241	0.6%	ACUTE TONSILLITIS

1. Wellness promotion and prevention of illness.

Health promotion and preventative care at many chiropractic institution is often restricted in scope. Too often, what is prevalent in the clinic systems is equating these services with patient recruitment. Several chiropractic programs regularly provide "spinal screenings" at public events, and students learn to build their clinic practices in this manner. At some institutions, there is a marked discrepancy between what is taught in the classroom and what is practiced in the clinics. For example, many programs expose their students to the concepts of smoking cessation and weight control; however the level of application of these services in the program's clinics is often minimal.

In 1997, the Association of Teachers of Preventive Medicine and the Health Resources Services Administration administered a Prevention Self-Assessment Analysis (PSAA) to medical schools in the U.S. This survey, along with other input, led to the development of core competencies in disease prevention and health promotion for undergraduate medical education (5). The adoption of these, or similar competencies, at chiropractic institutions has been rather inconsistent. Examples of core competencies that receive little em-

TABLE 2
SPECIFIC CONDITIONS AND DISEASES SEEN AT THE MONTANA STATE UNIVERSITY STUDENT HEALTH SERVICE 1997–98.

CONDITION/DISEASE (ALPHABETICAL)
ACNE
ALLERGIC RHINITIS
ANXIETY
ASTHMA
BRONCHITIS (ACUTE)
CONJUNCTIVITIS
CONTRACEPTION
CYSTITIS/URINARY TRACT INFECTION
DEPRESSION
EATING DISORDERS
HEADACHE
HPV/WARTS
HYPERTENSION
HYPERTHYROIDISM
HYPOTHYROIDISM
INFECTIOUS MONONUCLEOSIS
INFLUENZA/FLU-LIKE ILLNESS
LOW BACK PAIN
OTITIS MEDIA
PHARYNGITIS/TONSILLITIS
SEXUALLY-TRANSMITTED DISEASE
SINUSITIS
SPRAINS
UPPER RESPIRATORY INFECTION
WEIGHT MANAGEMENT
WOMEN'S HEALTH DISORDERS

TABLE 3
TOP 25 DIAGNOSIS CLUSTERS IN PRIMARY CARE. DIRECT OBSERVATION OF PRIMARY CARE STUDY (J FAM PRACT 1998;46:377–89.)

1.	HYPERTENSION
2.	ACUTE UPPER RESPIRATORY ILLNESS
3.	GENERAL MEDICAL EXAM—PREVENTION
4.	SINUSITIS
5.	ACUTE LOWER RESPIRATORY ILLNESS
6.	OTITIS MEDIA
7.	DEPRESSION, ANXIETY
8.	DIABETES MELLITUS
9.	ACUTE SPRAINS, STRAINS
10.	ARTHRITIS
11.	ISCHEMIC HEART DISEASE
12.	ASTHMA
13.	LOW BACK PAIN
14.	LACERATIONS, CONTUSION
15.	FIBROSITIS, MYALGIA, ARTHRALGIA
16.	NONFUNGAL SKIN INFECTION
17.	HEADACHES
18.	ABDOMINAL PAIN
19.	BURSITIS, TENOSYNOVITIS
20.	CHRONIC RHINITIS
21.	PREGNANCY CARE
22.	CHRONIC OBSTRUCTIVE PULMONARY DISEASE
23.	THYROID DISEASE
24.	URINARY TRACT INFECTION
25.	PEPTIC DISEASE

phasis at most chiropractic programs are prevention counseling for reproductive health, domestic violence screening, managing immunizations, use of community resources such as dieticians or social workers, and interactions with the public health system.

TABLE 4
HOURS OF CLINIC EXPERIENCE IN D.C. PROGRAM IN U.S.

480
554
630
780
915
945
960
979
1080
1115
1174
1300
1300
1365

Personal communication with several clinic system administrators suggests that some campuses have paid little attention to the publication of Health People 2010 by the U.S. Department of Health and Human Services. One of the objectives of that initiative is to "increase the proportion of schools of medicine, schools of nursing, and other health professional training schools whose basic curriculum for health care providers includes the core competencies in health promotion and disease prevention" (6).

2. Diagnosis and management of conditions common in ambulatory patients.

There have been several studies of the conditions and diseases managed in ambulatory, primary care practices. Tables 1–3 summarize the results of 3 of these surveys. Common to these and similar surveys, depending on the age group of the patient population being studied, are conditions such as hypertension, upper respiratory infections, diabetes, allergies, otitis media, thyroid disease, low-back pain, strains and sprains, anxiety, depression, asthma, and ischemic heart disease.

Although most chiropractic degree programs include the pathology and diagnosis of these conditions to varying degrees, there is often little emphasis placed upon the management of such. The clinical experience at many institutions provides little exposure to non-musculoskeletal conditions. Students become sufficiently knowledgeable to pass National Board of Chiropractic Examiners (NBCE) examinations (8) covering differential diagnosis of common illness and disorders; however, 2 major flaws exist within these exams. First, the Parts 1, II, and III tests are exclusively single-

answer multiple choice questions with 4 distractors. This type of test satisfactorily assesses factual knowledge but is poor for evaluation of clinical reasoning skills. Second, these NBCE exams do not adequately assess management of any condition, at a primary-care level, other than subluxation. Even the Part IV examination does not address management, other than referral, of complex or serious disorders.

The clinical experience varies widely among the chiropractic programs. Some of the variation is due to the philosophical orientation of the institution. For instance, some programs include little or no physiotherapy, application of supports, rehabilitation, nutritional counseling, or management of extremity disorders. The total amount of time spent in the clinical experience also varies widely, ranging from 500 to 1300 hours, with an average of 970 hours (Table 4). The CCE Standards do not include specific hour requirements for the clinical experience; however, some states have minimum requirements in their practice acts. By comparison, naturopathic medicine, a profession that promotes itself as providing primary care, has established a minimum of 1200 hours of clinical experience for accredited programs. Undergraduate medical programs typically rotate third and fourth year students through a series of ambulatory clinic and hospital rotations, amassing in excess of 2500 hours of clinical experience prior to graduation.

3. Coordination and management of healthcare resources and interaction with other healthcare providers.

Many, but not all, of the chiropractic programs have developed good working relations with other healthcare providers. In a few of these programs, there are allopathic or osteopathic physicians and physical therapists providing services in the campus clinics. Overall, however, most of the interaction with other providers is primarily on a referral basis. Often this is unidirectional, with little feedback or reporting from the outside physician. A few programs also have other alternative medicine providers working within the clinic system. As pointed out previously, there has been little progress in involving social workers, dieticians, and similar healthcare workers in chiropractic internships. Community health-care resources include mental health services (mental health centers, alcohol and drug abuse facilities, child and domestic abuse counselors, sexual assault centers), public health departments, extended care and nursing facilities, and hospitals. There is little evidence of involvement of chiropractic students in interactions with most of these resources.

Chiropractic physicians have demonstrated strong doctor-patient relationship skills and are well positioned to play a significant role in the coordination of healthcare resources. Unfortunately, questionable practice behaviors, including unprofessional advertising, excessive patient billing, unnecessary procedures, and promotion of unscientific principles, may lead to professional ostracism and isolation.

CONCLUSION

Recommendations:

1. There should be a concerted effort by the profession to develop and adopt specific objectives relating to primary care in the curriculum. Ideally, this would be a project of the Association of Chiropractic Colleges (ACC); however, it is quite unlikely that the current composition of the ACC would result in a useful document. In lieu of this larger effort, then philosophically-aligned institutions should collaborate on a smaller scale.
2. Chiropractic programs should review and adopt the *Healthy People 2010* guidelines (6). This includes the development of "core competencies in health promotion and disease prevention."
3. The chiropractic programs should publish policy statements to clearly demonstrate the abandonment of a monocausal theory of disease and conformance with generally accepted public-health policies (including immunization), and incorporate these opinions into the curriculum.
4. Each chiropractic program should clearly identify those conditions and disorders that their graduates will be trained to identify and manage as primary-care clinicians. A subluxation-only philosophy is inconsistent with concepts of primary care.
5. Each chiropractic program must develop and implement strategies to greatly increase the diversity of the patient population in the teaching clinics. Such strategies could include partnerships with allopathic or osteopathic physicians and other health-care providers to provide patient care and student educational services either in the program clinics or in community clinics.
6. Programs should promote the adoption of CCE standards specifying hours of clinical experience. The minimum number of hours of true patient-care clinical training hours should be no less than 1000.
7. Programs should voluntarily act to increase the hours of clinical experience, and to do so in a way that incorporates primary care and enhances competency in primary care. This could be done by some combination of diversification of services provided to patients, marketing programs to enhance the development of a more diverse patient population, incor-

poration of other traditional and non-traditional health-care providers into the clinic system, development of preceptorship experiences in allopathic provider offices and offices of chiropractors who have a primary-care focus, and development of rotations in community health resources (mental health institutions, public clinics, hospitals, etc.)

8. Programs should develop specific practice guidelines addressing the most common primary-care conditions, incorporate these guidelines into the curriculum, and utilize these guidelines in the clinic system.
9. Competency assessments of chiropractic students must include evaluation of core competencies of primary care. These assessments must be realistic and patient-based. It is inappropriate, for example, to assess a student's competency in evaluating retinal damage in hypertension with a multiple-choice test.

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