CURRICULUM IN INTEGRATIVE MEDICINE:

A GUIDE FOR MEDICAL EDUCATORS

Consortium of Academic Health Centers
for Integrative Medicine

Working Group on Education

May 2004

This project was made possible by a generous grant from the
Philanthropic Collaborative for Integrative Medicine

CURRICULUM IN INTEGRATIVE MEDICINE:

A GUIDE FOR MEDICAL EDUCATORS

Editors:

Benjamin Kligler, MD

Rita Benn, PhD

Gwen Alexander, PhD

Contributors:

David Barclay, MD
Marc Brodsky, MD
Larry Burk, MD
Maggie Covington, MD
Michael Curtis
David Eisenberg, MD
Tracey Gaudet, MD
James Gordon, MD
Adi Haramati, PhD
Nancy Harazduk, MEd, MSW
Ka-Kit Hui, MD
Wayne Jonas, MD
Karen Lawson, MD
Barbara Leonard, PhD
Victoria Maizes, MD
Tim Pan, MD
Constance Park, MD, PhD
Adam Perlman, MD
Rachel Naomi Remen, MD
Steven Rosenzweig, MD
Steven Schachter, MD
Robert Scholten, MSLIS
Victor Sierpina, MD
Riva Touger-Decker, PhD
Bill Tu, MD
Sara Warber, MD

CAHCIM Schools:

University of Arizona
Program for Integrative Medicine
www.integrativemedicine.arizona.edu

University of Calgary
Canadian Institute of Natural & Integrative Medicine
www.ucalgary.ca

University of California, Los Angeles
Collaborative Centers for Integrative Medicine
www.uclamindbody.org

University of California, San Francisco
Osher Center for Integrative Medicine
www.ucsf.edu/ocim

Columbia University
Richard and Hinda Rosenthal Center for Complementary & Alternative Medicine
www.rosenthal.hs.columbia.edu

Duke University
Duke Center for Integrative Medicine
www.dcim.org

Albert Einstein College of Medicine of Yeshiva University
Continuum Center for Health and Healing
www.healthandhealingny.org

George Washington University
Center for Integrative Medicine
www.integrativemedicinedc.com

Georgetown University
Kaplan Clinic
www.georgetown.edu/schmed/cam

Harvard University
Osher Institute
www.osher.hms.harvard.edu

University of Hawaii at Manoa
Program in Integrative Medicine
www.uhm.hawaii.edu

Thomas Jefferson University
Center for Integrative Medicine
www.jeffersonhospital.org/cim

University of Maryland
Center for Integrative Medicine
www.compmed.umm.edu

University of Massachusetts
Center for Mindfulness
www.umassmed.edu/cfm/

University of Michigan
Complementary & Alternative Research Center
www.med.umich.edu/camrc

University of Minnesota
Center for Spirituality and Healing
www.csh.umn.edu

University of Medicine and Dentistry of New Jersey
Institute for Complementary & Alternative Medicine
www.umdnj.edu/icam

Oregon Health and Science University
Women's Primary Care and Integrative Medicine, Center forWomen's Health
www.ohsu.edu/women

University of Pennsylvania
Office of Complementary Therapies
www.med.upenn.edu/progdev/compmed/steering.html

University of Pittsburgh
Center for Complementary Medicine
www.complementarymedicine.upmc.com

University of Texas Medical Branch
UTMB Integrative Health Care
www.cam.utmb.edu

University of Washington
Department of Family Medicine
www.fammed.washington.edu/predoctoral/cam

TABLE OF CONTENTS

INTRODUCTION

INTRODUCTION TO INTEGRATIVE MEDICINE CURRICULUM GUIDE

Background

More than 40% of the US population is now using complementary and alternative medicine (CAM) approaches on a regular basis.[1] Patients' perceptions about the deficiencies in their medical care are reflected in their increasing expenditures for alternative care, votes in favor of medical freedom acts (Minnesota, North Carolina), and petitions to Congress for access to over-the-counter herbs and supplements. The public desire for the integration of "alternative" or "unconventional" treatment approaches into conventional health care settings has been well documented. Physician dissatisfaction with the current system of care is also prevalent, with the limitations imposed by managed care as a major contributing factor.

Integrative medicine is a new approach to medicine that embraces the concerns of the public and medical profession for more effective, compassionate, patient-centered medicine. Integrative medicine has been defined as healing-oriented medicine that takes account of the whole person (body, mind, and spirit), including all aspects of lifestyle.It emphasizes the therapeutic relationship and makes use of all appropriate therapies, both conventional and alternative.[2] Over the past 10 years, the number of medical schools providing education related to integrative medicine has grown rapidly. As of 1998, 64% of schools responding to a survey in the United States had curriculum offerings in this area.[3] However, many of these offerings have been elective and thus not part of the learning experience of most students. In addition, different areas of content and instructional strategies have been used to teach topics in integrative medicine. The wide variation in content and delivery stems in part from the absence of explicitly designed educational objectives and learner outcomes for integrative medicine. The development of student competencies in integrative medicine and methods for evaluating curricular interventions is only underway at a few institutions.[4]

Consortium of Academic Health Centers for Integrative Medicine (CAHCIM)

In response to the need for a more coherent response to this new area within academic medicine, the Consortium of Academic Health Centers for Integrative Medicine (CAHCIM) was formed in 1999 with eight member institutions.[5] The Consortium has met twice since this initial meeting and is now comprised of 22 member schools.* The mission of CAHCIM is to "help transform healthcare through rigorous scientific studies, new models of clinical care, and innovative educational programs that integrate biomedicine, the complexity of human beings, the intrinsic nature of healing, and the rich diversity of therapeutic systems." Criteria for admission to CAHCIM include:

a) Meeting the criteria of the Association of Academic Health Centers (AAHC) defining an Academic Health Center. [6]
b) Having an established program in integrative medicine that includes ongoing work in more than one of three areas: research, education, and clinical activity.
c) Having the institutional commitment of the health center with regard to institutional movement in the field of integrative medicine, as evidenced by expressed support from senior leadership (Chancellor or Dean) of the health center.

In 2001, a subgroup of the Consortium began to work on guidelines for assisting medical schools in their design of integrative medicine curriculum activities. As a first step, this Education Working Group developed a set of competencies that delineated the values, knowledge, attitudes, and skills that CAHCIM believes are fundamental to the field of integrative medicine. These competencies were endorsed by the CAHCIM Steering Committee in May 2003, and an article outlining them appears in the June 2004 issue of *Academic Medicine*.[7] Many of these competencies re-affirm humanistic values inherent to the practice of all medical specialties, while others are specific to

* Albert Einstein, Columbia, Duke, George Washington, Georgetown, Harvard, Jefferson, Oregon Health Sciences University, University of Arizona, University of Calgary, University of California at Los Angeles, University of California at San Francisco, University of Hawaii, University of Massachusetts, University of Maryland, University of Medicine and Dentistry of New Jersey, University of Minnesota, University of Michigan, University of Pennsylvania, University of Pittsburgh, University of Texas at Galveston, University of Washington

"unconventional" approaches to health and healing. These competencies are presented in Section 2 of this guide and can be used by medical institutions as a framework for developing curriculum and for evaluation of programs in integrative medicine.

CAHCIM Curriculum Implementation Guide

The Integrative Medicine Curriculum Guide is offered to assist medical educators as they move to develop curricular materials to effectively address these competencies. The guide contains samples of materials that were contributed by medical educators from a number of US medical schools to illustrate approaches to introducing CAM and integrative medicine topics. CAHCIM members were invited to submit curriculum samples currently in use that address one or more of the competencies in integrative medicine and that might be shared as a template for adaptation within other medical schools.

Samples presented in this guide are not intended to be comprehensive. Our goal is to represent offerings from a variety of medical schools that can be employed at different levels within the four years of medical school. The curriculum examples represented cover a variety of topics and incorporate the many approaches to facilitating effective learning. Table 1 (see page 9) outlines the types of curricular activities contained in this guide.

For first and second year students, the guide includes, among other courses, an overall lecture-type introduction to CAM for entering first year students that is followed by a field trip component and reflective small-group discussion; an introduction to Herbal Medicine presented as part of a second-year pharmacology course; a Web-based interactive learning unit on Spirituality in medicine; cases illustrating an evidence-based approach to applications of CAM; and a standardized patient experience to permit practice and evaluation. For students in the third and fourth years, we include descriptions of some of the in-depth elective experiences available in this area. In each module, the materials contributed by the medical schools are preceded by an outline of goals and objectives, specific learning outcomes from the CAHCIM competencies, learning methodology, illustrations of application, reflection questions to encourage deeper understanding, implementation challenges, and proposed evaluation strategies.

Challenges in implementation

Given the divergent nature of unconventional therapies and the varying levels of evidence that supports their use, the integration of topics in complementary and alternative medicine into conventional medical education poses a unique challenge.[8] Innovative educational approaches are required to achieve an effective understanding of the principles and practice of integrative medicine. These approaches demand that we develop methods beyond those needed to teach new scientific facts. Two particularly important components for effective implementation of teaching in integrative medicine, which are not typically part of medical school curricula, are the use of experiential approaches to facilitate an understanding of complementary and alternative therapies, and the education of medical students in self-care and reflection. Examples of both are provided in the curriculum modules in this guide.

Perhaps the most significant challenge posed by the introduction of integrative medicine competencies into the conventional medical school curriculum at many schools is finding time for them.[9] Educators at a number of schools have addressed this problem by working to incorporate teaching on integrative medicine into existing courses rather than looking to establish new courses. For example, introducing information on taking an effective history of a patient's use of CAM modalities into the interviewing course has been an effective strategy; another example would be integrating a patient's use of CAM modalities into an existing standardized patient encounter or problem-based learning case rather than trying to find room for an entirely new session covering only

Table 1. Curriculum modules included

Unit	Competency Focus	Medical Student Level	Course/ Session Length	Content Focus	Primary Instructional Delivery	Course Faculty
Introduction to CAM	Knowledge Skills	M1	5-7 hours over one week	Basic science and experiential	Lecture Small group discussion Field visit	Medical faculty paired with CAM provider
Introduction Spirituality in Health Care	Knowledge Skills Attitudes	M1	2-hour session	Basic science and experiential	Lecture Small group Experiential interview	Academic medical faculty
Mind-Body Skills	Knowledge Skills Attitudes	M1 and M2	2 hours per week over 11 weeks	Experiential	Small group discussion Experiential	Academic medical faculty
Integration of Culture in Medical Practice	Knowledge Skills Attitudes	M2	1 hour session	Experiential /clinical	Practice interview Small group discussion	Academic medical faculty "Standard-ized Family"
Introduction to Herbal Medicine	Knowledge Skills	M2	1-hour session	Basic science/ evidence	Lecture Case discussion	Academic medical faculty
CAM Patient Interview	Knowledge Skills Attitudes	M2 M4	2-hour workshop	Experiential /clinical	Practice interview Small group discussion	Medical faculty "Standard-ized Patient"
Evidence-based Integrative Medicine	Knowledge Skills Attitudes	M4	4-week course	Basic science/ evidence	Lecture Small group discussion Experiential Field visit	Medical faculty, CAM providers
Healer's Art	Values Knowledge	M1/M2 and Faculty	3 hours per week over 5 weeks	Experiential	Lecture Small group discussion Experiential	Academic medical faculty
Implications for Integrative Medical Care	Knowledge Skills Attitudes	M4	Four 4-hour sessions over one week	Basic science/ evidence	Small group discussion Case discussion	Medical faculty CAM providers Patient visit
Introduction to Integrative East-West Medicine	Knowledge Skills	M4	2-week clinical elective	Basic science/ evidence Experiential /clinical	Lecture Case discussion Small group Experiential Clinical observation	Academic and clinical medical faculty CAM providers
Legal Issues in CAM Therapies	Knowledge Skills Attitudes	Health profess-ionals	1-3 week unit within 3 month course	Basic science/ evidence	On-line Web didactic, case-based	Health care attorney

an integrative medicine topic. One example of such an approach in this guide is Temple University's standardized patient case of an older woman's desire to address her menopause symptoms using alternative therapies that is part of the advanced doctor-patient interviewing course. Another illustration of how to incorporate teaching on integrative medicine into existing programs is Jefferson Medical College's introduction to addressing herbal medicine, which is provided within the existing pharmacology course. This "integrative" approach to the time challenge avoids many of the power and political struggles that typically govern allocation of time in the preclinical curriculum. It is also more in keeping with the ultimate goal of having this material thoroughly integrated into the entire medical school curriculum rather than standing alone in either a required or an elective course.

A second, and perhaps equally difficult, challenge is that an integrative medicine curriculum includes material that may not be recognized en face as core medical content. Concepts are presented that have been excluded or marginalized by the current biomedical paradigm. For example, traditional healing systems include the concept of a life force, theories of spiritual causation, and therapeutics based on interconnectedness of healer and patient. Another example is the importance placed by integrative medicine on studying dimensions of illness and healing that cannot be captured through quantitative analysis. Integrative medicine therefore makes use of supplemental lines of inquiry methods including self-reflection, participant-observation, qualitative research methods, historical review, and cultural studies. By bridging biomedicine with alternative healing paradigms, integrative medicine creates opportunities for students (and faculty) to become philosophers of science, challenging them to critically reflect upon core philosophical assumptions underlying diverse models.

Experiential learning

Experience, within the context of the application, provides the deepest levels of understanding. Providing learners with an opportunity to experience and reflect on learning is key to building competence within a domain. Teaching alternative medical practices and systems (e.g., acupuncture, homeopathy, chiropractic, naturopathy, Ayurveda (and other traditional healing practices), mind-body interventions (meditation, hypnosis, etc.), would be straightforward if introducing these therapies only required the presentation of new facts. However, systems such as Traditional Chinese Medicine are complex and are founded on paradigms that differ significantly from the allopathic medical model. Teaching these topics solely through a didactic format, although necessary as a start, may not be sufficient to develop a real understanding. A lecture on acupuncture is unlikely to capture the sensate experience of having an acupuncture needle placed or the deep relaxation that may be experienced through a practice such as tai chi. Similarly, describing the physiology of the relaxation response may be less effective than having students experience it directly through a meditation exercise.

Inclusion of traditional systems of medicine and other complementary approaches in the medical school curriculum requires both a synthesis of additional facts and a need for experience-based understanding to facilitate real clinical awareness. As with other aspects of a "multicultural approach" to medical education, immersion and other experience-based teaching methods can be invaluable to facilitate an understanding of the differences between "conventional" and "unconventional" views of health and illness and how they can be reconciled. The experiential component adds a rich contextual learning base that augments the acquisition of facts related to these unfamiliar therapies. Furthermore, immersion adds empathetic awareness in the student that will be utilized in the future when recommendations may be made.

Experiential learning also enables medical students to develop skills in self-reflection and strategies for self-care. A central tenet of integrative medicine is the notion that self-care for the physician, and the cultivation of a practice of reflection, are critical to the effective practice of medicine. The 1998 American Association of Medical Colleges (AAMC) learning objectives suggest: "physicians must be compassionate and empathetic in caring for their patients ... [and] have honesty and integrity in all interactions with patients' families, colleagues and with others whom they must interact in their personal lives." [10] Implicit in this objective, it would seem, is that physicians should value and cultivate these attributes in themselves and engage in life-supporting activities that will foster their own health so as to serve as effective role models for their patients. But the nature of conventional medical training and professional life often do not support this practice. Therefore, many

medical schools have already recognized the need to add formal education in self-care and reflection to their curriculum.

Examples in the curriculum guide that devote time to deepening meaning from student experience include the many reflection exercises throughout the University of Minnesota Spirituality unit, the UCSF "Healer's Art" course, and the Mind-Body experience provided by Georgetown University School of Medicine, which provides students with experience and a planning process for their own self-healing process. In addition to these units that specifically address reflection and self-awareness, we have provided in this guide suggested reflection questions for each illustrated unit. Promoting reflection in the medical school curriculum in general is an important and current goal for many medical educators. We hope that the demonstration here of how reflection questions can be provided even for sessions (such as the Jefferson Medical College Herbal Medicine module) oriented toward factual knowledge is helpful in illustrating how this approach can be integrated throughout a curriculum.

A reliance on interactive learning is another critical part of the experience-oriented approach proposed in this guide, as demonstrated by Web-based courses (University of Minnesota Spirituality, UMDNJ overview), reviewing case studies with guided discussion exercises (Harvard case study, UTMB cases, EBM cases), and standardized patient interviewing (Temple OSCE). Such strategies—as opposed to lecture format presentations—provide the context and application of new learning so that the student is able to "try on" the roles of interviewer, decision-maker, and patient advocate in a new way. Clearly, lectures and PowerPoint presentations play an important role in delivering new information to medical students. However, in this guide we have chosen to place emphasis on active and interactive approaches to learning which are particularly critical in mastering the competencies proposed for integrative medicine.

Summary

The need to facilitate student understanding of CAM topics and therapies within the modern medical environment, and the integration of new topics into the already dense medical school curriculum, pose several challenges for educators. Identifying and claiming time for introducing new topics and engaging students, so that they are able to make meaning within the learning process, is both politically and logistically challenging. The institutional climate for incorporation of CAM and integrative medicine will vary widely from one school to another. Some schools have been successful in integrating topics throughout the four-year medical school curriculum at the time of planned curriculum reform. In other cases, educators have incorporated only selected components. Many may still be engaged in debating whether medical education in this area is appropriate at all. The competencies as well as curriculum activities presented in this guide can be adapted or customized to meet the needs of educators and students at a given school. Our hope is that the spectrum of approaches presented here is wide enough to be useful in some way to educators at all points along the spectrum.

References

[1] Eisenberg DM, Davis R, Ettner S, et al. Trends in alternative medicine use in the United States, 1990-1997. *JAMA* 1998; 280:1569-1575.

[2] Maizes V, Schneider P, Bell I, Weil A. Integrative Medical Education: Development and implementation of a comprehensive curriculum at the University of Arizona. *Acad Med* 2002: 77:851-860

[3] Wetzel MS, Eisenberg DM, Kaptchuk TJ. Courses involving complementary and alternative medicine at US medical schools. *JAMA*. 1998 Sep 2;280(9):784-7.

[4] Proceedings of a Working Group on Evaluation of CAM Curricula, University of Michigan Complementary and Alternative Medicine Research Center, Ann Arbor MI 2003.

[5] Duke, Harvard, Stanford, Universities of Arizona, California at San Francisco, Massachusetts, Maryland, Minnesota.

[6] According to the AAMC, an Academic Health Center consists of an allopathic or osteopathic medical school and at least one other health profession school or program and at least one affiliated or owned teaching hospital.

[7] Kligler B, Maizes V, Schacter C, et al. Core competencies in Integrative medicine for medical school curricula: A proposal from the Consortium of Academic Health Centers for Integrative Medicine. Acad Med. 2004. (At press.)

[8] Gaudet TW. Integrative medicine: the evolution of a new approach to medicine and to medical education. *Integ Med*. 1998.1:67-73.

[9] Waldstein SR, Neumann SA, Drossman DA, Novack DH. Teaching psychosomatic (biopsychosocial) medicine in United States medical schools: survey findings. *Psychosom Med* 2001 May-Jun;63(3):335-43

[10] Report I: Learning Objectives for Medical Student Education: Guidelines for Medical Schools. Medical School Objective Project Advisory Group. Jan 1998. American Association of Medical Colleges.