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Developing a Complementary, Alternative, and Integrative Medicine Course: One Medical School's Experience

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Abstract

Background: There is significant overlap with many concepts emphasized in integrative medicine and current educational priorities within medical school education such as cultural sensitivity, doctor–patient relationship, and physician self-care. Although the concept of Integrative Medicine is just beginning to gain recognition in academic medical institutions, the recognition of Complementary and Alternative Medicine's (CAM) growing popularity has led to increased incorporation of CAM content into U.S. medical school education.
Aim: The present article describes the evolution of a complementary, alternative, and integrative medicine course within the New Jersey Medical School at the University of Medicine and Dentistry over the last 3 years, and critically evaluates its successes and challenges.

Introduction

Complementary and Alternative Medicine (CAM) has been defined by the National Institutes of Health as a "group of diverse medical and health care systems, practices and products that are not considered to be part of conventional medicine."[1] Analysis of data collected by the Centers for Disease Control and Prevention in 2007 revealed that over 38% of respondents surveyed utilized some form of CAM during the preceding 12 months.[2] The increased recognition of the role CAM is playing in today's health care system, and perhaps the dissatisfaction of both patients and health care providers with the current system has led to growing interest in the concept of integrative medicine. Integrative medicine emphasizes a whole person, patient-centered approach to care, considering issues of mind, body, and spirit. It is an evidence-based approach that considers both conventional and CAM interventions. There is significant overlap with many concepts emphasized in integrative medicine and current educational priorities within medical school education, including cultural sensitivity, doctor–patient relationship, and physician self-care.

Although the concept of integrative medicine is just beginning to gain recognition in academic medical institutions, the recognition of CAM's growing popularity has led to increased incorporation of CAM content into U.S. medical school education. A survey published by Wetzel et al. in 1998 found that 64% of the 117 schools responding included some CAM subject matter as a part of their curriculum.[3] This represents a significant increase over the 34% of schools found to be teaching CAM in a 1995 survey.[4] However, the manner in which medical schools integrate CAM content varies greatly. A survey of U.S. medical schools published in academic medicine in 2002 revealed that of the 53 schools responding, three fourths had a CAM elective, with only one third requiring CAM material as a required component of the curriculum.[5] In 2004, the Consortium of Academic Health Centers for integrative medicine, a group composed of 43 U.S. and Canadian academic medical institutions, developed and published core competencies in integrative medicine for medical school curricula.[6] These competencies serve as a tool and guide for institutions looking to integrate not only content on specific CAM treatments or modalities, but also the values, knowledge, attitudes, and skills felt to be fundamental to the field of integrative medicine.

In the last decade there have been marked changes in medical school curricula in the United States. Curricular innovations have been driven by the concordance of three major forces: (1) the realization that medical school curricula have not kept pace with the rapid changes occurring in the biomedical sciences; (2) an appreciation of the fact that the traditional medical school training, which consists of 2 years of basic science education followed by 2 years of clinical training, is an artificial dichotomy that does not reflect how

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physicians practice medicine; and (3) an acknowledgment of a growing societal dissatisfaction with the quality of their health care, and in particular a concern regarding the communication and interpersonal skills of physicians. As a consequence of these factors, as well as others, the New Jersey Medical School implemented a new curriculum in academic year 2004–2005. Called the Jubilee Curriculum, in recognition of the 50th anniversary of the medical school, the new curriculum addressed the three aforementioned concerns by (1) creating a curriculum that crossed departmental boundaries and highlighted the latest advances in the biomedical sciences; (2) integrating clinical sciences into the basic science years and basic sciences into the final 2 years of training; and (3) creating a 2-year longitudinal course called Doctoring dedicated to elevating the history, physical, and communication skills of medical students. Based upon the increasing use of CAM by the American population, it was decided that a comprehensive CAM curriculum would be developed and integrated into the Jubilee Curriculum.

Program Description

Goals and objectives

The integration of CAM into a medical school curriculum presents a unique challenge as the breadth and diversity of material required to be covered does not fit into a particular course or clerkship. In fact, CAM content needs to be included throughout all 4 years of a medical school curriculum and in the majority of courses and clerkships. Consequently, in order to appropriately integrate CAM into the Jubilee Curriculum (along with other comprehensive topics such as medical ethics and women's health), an administrative structure entitled Courses Without Walls (CWW) was created. A CWW CAM course director (A.P.) was appointed and charged with working with the associate dean for curriculum (A.S.G.) to develop goals, objectives, and an implementation plan for a comprehensive 4-year CAM curriculum. The present article describes the evolution of the CAM Course Without Walls over the last 3 years and critically evaluates its successes and challenges.

The complementary, alternative, and integrative medicine (CAIM) CWW was developed with the goal of providing students with the opportunity to learn about evidence-based CAM as well as the integrative medical approach to the evaluation and care of patients. Goals, objectives, and competencies by year were developed with the use of the *Core Competencies in Integrative Medicine for Medical School Curricula: A Proposal* article[6] as a reference. The goals included exposure to CAM modalities from all five major categories of CAM, appreciation for the various aspects of an integrative medicine evaluation, and commitment to self-care. The five major categories of CAM as defined by the National Institutes of Health National Center for Complementary and Alternative Medicine are Whole Medical Systems, Biologically Based Practices, Mind–Body Medicine, Manipulative and Body-Based Practices, and Energy Medicine.[1] Objectives and competencies by year were developed (Table 1) and presented to the Jubilee Curriculum Committee for approval. After approval, the course director was charged with integrating the content into the curriculum in conjunction with the various other course directors.

Integration required getting buy-in from both basic science and clinical faculty. The CAIM CWW director met individually with each basic science and clinical course director for the courses that were initially targeted for integration of CAM content. Consensus was developed around the need for the integration of the content and the need for an approach to the selection and presentation of content that would follow evidence-based principles. This building of consensus required a championing of the course by the course director with strong support from the associate dean for curriculum. Resistance from course directors to CAM integration was related more to an overall concern for a lack of sufficient time to teach the core course material as opposed to an objection in principle to the integration of CAM content.

CAM content and integration into current curriculum

Integration of the CAIM curriculum initially targeted the first and second years and was guided by the goals, objectives, and competencies approved by the curriculum committee. Introduction and overview of CAIM content regarding self-care and stress management as well as lectures and demonstrations on acupuncture and manipulation and body-based therapies were integrated into the first year with an attempt at coordination with the content that students were learning in the particular course. For example, the lecture on manipulation and body-based therapies was given during human anatomy while the students were learning about and dissecting the muscles. During the second year, a lecture on an evidence-based approach to integrating CAIM content into clinical practice and critiquing the literature was integrated into the Epidemiology, Biostatistics, and Community Medicine course. Other content proved more difficult to fit seamlessly into the existing curriculum. For example, a lecture on CAM Legal and Ethical Issues was integrated into the Disease Process, Prevention, and Therapeutics course during the second year.

Given the breadth of potential content included in the proposed CAIM curriculum, finding a cohort of appropriately trained faculty to teach this content at a medical school level was clearly a challenge. Ultimately, the teaching of the content needed to come from a combination of faculty with formal training in CAM, such as a faculty member from the local massage school, as well as current medical school faculty with advanced training or knowledge of CAM. This required faculty development for select full-time faculty and recruitment of adjunct faculty with careful scrutiny of their expertise and teaching capabilities.

Acceptance and buy-in from students was also at times a challenge. Many students welcomed the course and immediately appreciated its significance. However, other students clearly questioned the need for exposure to this subject matter, particularly during the preclinical years, when the focus was still largely on basic science. The students' reflections were relayed to us through informal feedback from the course directors. The students' attitudes were likely reinforced by the fact that the inclusion of CAIM-specific questions on examinations was left to the discretion of the course directors, who often chose not to include CAM-specific questions. This decision, made at the level of the individual course director, made evaluation of the CAIM

Table 1A. Goal 1: Exposure to Complementary and Alternative Medicine (CAM) Modalities from the Five Major Categories of CAM

Completion of:	*Competencies*
Objective #1: To Demonstrate Understanding of the Prevalence and Patterns of CAM Use.	
1st year, students should:	Understand the prevalence of CAM use and the need for health care providers to be educated on CAM.
2nd year, students should:	Understand the types of CAM used commonly in the local community.
3rd year, students should:	Understand the prevalence and patterns of CAM use within various populations (i.e., pediatric or diabetic patients).
4th year, students should:	Understand the role of CAM within today's health care system.
Objective #2: To Demonstrate Understanding of the Basic Concepts: Definitions/Theory/ Philosophy/History for the Five Major Categories of CAM.	
1st year students should:	Describe the distinction between Alternative/Complementary/ Integrative Medicine.
2nd year students should:	• Describe the basic concepts of the more commonly used CAM modalities. • Describe the major issues related to the regulation of dietary supplements and herbs (disease process, prevention, and therapeutics).
3rd year students should:	Identify potential legal or ethical implications related to the inclusion or exclusion of CAM in a patient's treatment plan.
4th year students should:	Demonstrate the ability to effectively enter into a dialogue with a patient regarding CAM use.
Objective #3: To Demonstrate Familiarity with Evidence for Safety/Efficacy of Modalities from the Five Major Categories of CAM.	
1st year students should:	• Identify reputable resources for information on CAM. • Understand the evidence for mind–body medicine in the care of patients.
2nd year students should:	• Understand the safety and efficacy of some of the more commonly used dietary supplements and herbs. • Demonstrate knowledge of the safety and efficacy of energy medicine.
3rd year students should:	• Demonstrate knowledge of the safety and efficacy of acupuncture. • Counsel patients on the responsible use of dietary supplements and herbs prior to surgery.
4th year students should:	Demonstrate knowledge of the safety and efficacy of manipulation and body work.

Table 1B. Goal 2: Appreciation for the Various Aspects of an Integrative Medicine Evaluation

Completion of:	*Competencies*
Objective #1: To Demonstrate Knowledge of the Concept of an Integrative Medicine Evaluation.	
1st year students should:	• Describe the basic concepts and components of an Integrative Medicine evaluation. • Recognize the influence of the patient's personal, cultural, ethnic, and spiritual beliefs on their experience of health and illness and on the patient's clinical decision-making process. **(Core).**
2nd year students should:	• Describe the evidence for the mind–body–spirit relationships in illness and health. • Understand the role of religion and spirituality in health care.
3rd year students should:	Apply knowledge from multiple evidence-based resources to assess CAM modalities.
4th year students should:	Understand how to effectively refer patients to CAM providers.
Objective #2: To Demonstrate Ability to Counsel Patients on Various Aspects of an Integrative Medicine Evaluation.	
1st year students should:	Understand the strengths and limitations of applying evidence-based principles to the circumstances of an individual patient.
2nd year students should:	• Perform a comprehensive history that takes into consideration a patient's perspective, including cultural background and beliefs. • Communicate with patients about their CAM use in a respectful and culturally sensitive way.
3rd year students should:	Evaluate a patient's total health needs.
4th year students should:	Discuss with patients issues related to nutrition, exercise, stress, and spirituality.

Table 1C. Goal 3: Commitment to Self-Care

Completion of:	*Competencies*
Objective #1: To Demonstrate an Ongoing Commitment to Personal Growth.	
1st year students should:	• Understand how the physician's own personal, cultural, ethnic, and spiritual beliefs may affect their choice of recommendations regarding patient's treatment decisions. Understand and demonstrate the capacity for self-reflection as a tool for personal growth.
2nd year students should:	Utilize mind–body techniques for self-care.
3rd year students should:	Understand how to assess one's own level of stress.
4th year students should:	Recognize the impact of self-care on one's ability to care for and counsel patients.

course particularly difficult. Although surveys and Objective Structured Clinical Exams (OSCEs) were proposed as a mechanism to further evaluate the CAIM course and its impact, implementation of a formal evaluative process of the course proved to be challenging, given all the competing priorities. We are currently in the process of developing formal evaluation tools to assess the CAIM CWW from both the faculty's and students' points-of-view.

Strategies for addressing challenges in integrating CAM content

One (1) strategy that developed in order to address some of the challenges described above was collaborating with the faculty charged with integrating cultural competency content. The cultural competency initiative had existing strong support from the dean's office and in certain areas contained content that overlapped with potential CAIM content. The strategy included renaming the cultural competency module, which was a part of the 2-year Physician's Core course, to cultural competency and integrative medicine and adding significant content from the CAIM course to that module. Efforts also were undertaken to include CAIM content in clinical cases that were being revised to include cultural competency content.

Another strategy that worked well was the integration of content into a newly developed Health Beliefs and Behavior course that takes place during the third-year students' Internal Medicine rotation.[7] This course includes such content as counseling patients on weight management, smoking cessation, and substance abuse. It also includes content on physician burnout. A day of this rotation has been dedicated to self-care. Faculty from the University's Institute for Complementary and Alternative Medicine provide lectures on the Integrative Medical approach to care, biofeedback, mind–body medicine, and self-care. Students undertake their own self-care assessments, counsel each other on adopting healthy lifestyle behaviors, experience biofeedback, and end the day with a yoga class. This program has been consistently well received by the students, with yoga frequently rated the students' favorite aspect.

Although the CAIM course is still a work in progress, much integration has been achieved (Table 2). During the first year, as noted above, general information about the various domains of CAM has been integrated into the Physician's Core course with an emphasis on the cultural aspects of patient CAM use. Lectures on acupuncture as well as manipulation and body-based therapies were conducted during Human Anatomy, giving students an opportunity to see demonstrations of these modalities. Additional content on energy medicine, natural approaches to immune system support, and herbs and psychotropic medications is yet to be developed and integrated.

During the second year, the students receive content related to CAIM legal and ethical issues as well as the evidence-based integration of CAIM content into clinical practice and the integrative care model. Additional content on herbs and dietary supplements is being developed. Integration of CAIM content into cases presented during the third and fourth years has proven to be challenging.

Table 2. Complementary, Alternative, and Integrative Medicine Course: Proposed Integration

	Course hours
1st year	
Physician's Core	
Cultural Competency Module	3 hours
Physician Self-Care/Stress Management	1 hour
Molecular and Genetic Medicine	
Energy Medicine Lecture	1 hour
Human Anatomy	
Intro to Acupuncture	1 hour
Intro to Manipulation and Body-Based Therapies	1 hour
Integrative Structure and Function	
Natural Approaches to Immune Support	1 hour
Mind/Brain/Behavior	
Herbs and Psychotropic Medications	1 hour
2nd Year	
Infection and Host Defense	
Natural Approaches to Immune Support II	1 hour
Disease Process, Prevention, and Therapeutics	
Intro to Dietary Supplements and Herbs	1 hour
Epidem/Biostats/Community Medicine	
CAM Legal and Ethical Issues	2 hours
Integrating Versus Integrative	2 hours
3rd year and 4th year	
Health–Behavior Clerkship	7 hours, total
Mind–Body Lecture	
Lifestyle/Self-Care Plan Lecture	
Biofeedback	
Yoga/Breathing Exercises	
Family Medicine Clerkship	
CAM Practitioner Site Visits	To be determined
CAM for Common Diseases Cases with Cultural Issues	1 hour
Anesthesia Clerkship	
Herbs and Surgery Lecture (4 times per year)	1 hour
Psychiatry Clerkship	
Cases That Include Cultural Issues	1 hour
PM&R Clerkship	
CAM for Musculoskeletal Conditions	1 hour
Pediatric Clerkship	
Mind–Body for the Pediatric Population	1 hour
CAM for Common Pediatric Diseases with Cultural Issues	1 hour
Surgery Clerkship	
Cases that Include Cultural Issues	1 hour
Other: CAM-Related Activities	To be determined
Current CAM Elective	
Cultural Competency and CAM Interest Group (CCIM)	
Wellness Lecture Series	
CAM Distinguished Lecture Series	
Healer's Art Elective	
Elective at Another Institution	
Meditation Elective	

Again, little resistance to the inclusion of CAIM content in principle has been expressed by faculty or students. The limited amount of time for ever-increasing core content has certainly been a main concern voiced by faculty. In addition, budgetary constraints have at times limited the ability to recruit adjunct faculty or lecturers, who are needed when no faculty member has been able to be identified within the University with the appropriate content expertise. Efforts to integrate CAIM content into clinical cases as noted above mirror similar efforts with cultural competency content. The approach envisioned was to assist in integrating CAIM content into clinical cases while simultaneously providing education for the faculty regarding that content. This has proven to be challenging and has been initially met with resistance from faculty largely due to the perceived time commitment required to become comfortable with the content. However, presenting separate "CAIM cases" seems artificial and inconsistent with the real-world practice of medicine.

Discussion

Lessons learned

There have been many lessons learned while developing and integrating the CAM course into our Medical School curriculum. First and foremost, like all new and relatively novel initiatives, a clear vision is required. In our case, the vision was and continues to be a course with content that is seamlessly integrated into the curriculum. Clearly a champion is needed to help develop and execute that vision and that champion needs strong support from the Dean's Office. With the support of the Dean's Office, the champion or course director needs to seek buy-in from course directors, faculty, and students. Although general acceptance is needed, initial focus should be on integrating content wherever the best opportunities exist. This often is determined by where the least resistance is encountered. At the outset, a reasonable budget should be developed and approved. Inadequate resources can be a fatal flaw in the implementation plan. Finally, adequate assessment of the course is in the process of being developed and will be formally implemented.

Future directions

Continued integration and expansion of content is an ongoing effort (at times a battle) as we continue with a particular focus on clinical cases. Faculty development remains a challenge, and further collaboration with CAM Institution faculty is being actively pursued. In addition, implementation of an appropriate assessment of the curriculum and the students, such as the development of an OSCE, is an extremely important goal yet to be obtained. Despite the many inherent challenges, development and integration of the CAIM course has been and continues to be a rewarding experience for both the faculty and students and ultimately an experience that will benefit the patients that these students will care for.

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Disclosure Statement

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