

# The Changing Face of Medical Education: The Role of Religion, Integrative Medicine and Osteopathy

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**Abstract:** Medical education must pay attention to the impact of culture on health as our society becomes more diverse. Since patients are making greater use of modalities such as religion, integrative medicine and osteopathy, health care professionals need to be educated about these alternatives to traditional medicine. Medical education provides the opportunity to develop awareness and respect for the principles on which these modalities are based. This article reviews publications in these three areas, demonstrating their prevalence and their effects (current or future) on medical education. Rather than focusing on extensive curricula and instruction, the authors emphasize the need for "cultural competence" as competent communication—the willingness and ability of health care professionals to address these areas of their patients' lives in the context of health care.

**Keywords:** Religion, spirituality, integrative medicine, osteopathy, education.

## INTRODUCTION

Is being religious good for your health? Is it the lifestyle promoted by some religions, or is there something about the actual faith content that is important? For example, a review of the literature about Islam and its practices yielded conflicting latent themes. Some writers suggest that Islam is health-promoting while others suggest that it carries with it health risks for adherents [1].

Another example of the role of religion and non-traditional medicine is illustrated by a recent case in the intensive care unit. A seven-year old male of Italian-American ancestry was admitted to the pediatric intensive care unit following the development of overwhelming sepsis. He was mechanically ventilated and placed on numerous intravenous medications, including sedatives and antibiotics. The intensivist explained the child's severity to the gathered family and outlined the course of treatment. When she finished, the grandmother asked if they could also use oil of oregano to drive away the infection, stating that this had been a family custom for generations. The physician, who was a Doctor of Osteopathy (DO), suggested that it be applied to the soles of the patient's feet so as not to interfere with any IV sites. The family also asked the chaplain to anoint the child with oil and perform the Sacrament of the

Sick. The child recovered and the family credited both traditional medications and the osteopath's openness to their complementary treatments.

Contemporary medicine is no longer a one-dimensional practice focused on repairing a broken machine. The last half-century has seen unprecedented expansion of medicine's capabilities, its breadth—and its attitudes about healing. This openness to the conversation about what is and is not "good medicine" has led to numerous questions about the role and efficacy of many modalities, including religion, integrative (or complementary/alternative) medicine and osteopathy. A study of adult patients with cystic fibrosis (a genetic, life-shortening respiratory disease occurring predominately among Caucasians) showed that religion, integrative medicine and other "non-medical" interventions were frequently employed by these patients [2]. The relative importance of such non-medical interventions to the individual certainly varies by cultural background and other factors.

Physicians have not traditionally been exposed to other medical philosophies or traditions of healing during their medical education, and thus have not necessarily developed an appreciation or respect for the importance of these non-traditional practices in the lives of their patients. This lack of understanding of the importance of value of non-traditional medical practices has created, in essence, a cultural gap between physician and patient. There is, therefore, a need for physicians to have knowledge and understanding of how patients use non-traditional approaches to support their health or health condition. This in turn means that medical

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education programs much expose their students to the current thinking on non-traditional practices. Medical education needs to focus not only on exposure to these practices but also how to communicate with patients and these therapies. This article reviews important contributions to the field that may play a role in medical education as well as issues created by their inclusion into curricula.

## RELIGION AND SPIRITUALITY IN WESTERN MEDICAL EDUCATION

Searching the medical database PubMed for the word "religion" produces 39,952 results. The "Handbook of Religion and Health" reviews over 1600 studies published between 1900 and 2000 that explore the relationship between religion and health [3]. Religion influences decisions to disclose one's HIV status in Tanzania and can serve as a means of coping with illness (some forms of religious coping is associated with poorer health outcomes) [4, 5]. Although science has advanced medicine's capabilities, there remains a need to be aware of non-technological but salient forces that affect the pursuit of health—and this knowledge must be included in the education of current and future medical practitioners. Numerous reviews of the role of medicine in health exist; here we focus on the specific role of religion in medical education [6, 7].

### Religion in Medical School Curricula

Religious/spiritual issues have been recognized as important factors in medical education for some time. Medical schools in the United States have integrated these issues into curricula, but the topic achieved greater importance after the 1995 National Institutes of Health Conference on Spiritual Assessment in Health Care Settings [8]. Neely and Minford provide a recent review on the state of similar training in medical schools in the UK. They report that 59% of UK medical schools offer some form of education in religion/spiritual issues [9]. Their review of seventeen papers indicated that 50% of the schools offering religious/spiritual education made it compulsory; 80% offered some optional components as well. The majority (80%) of the schools offering some form of religious/spiritual training also offered education in complementary/alternative medicine to their students.

The situation may be different in other locations. Students at the Erasmus Medical Center in Rotterdam (The Netherlands) were studied by Selleger *et al.* concerning the effects of religion on their training [10]. With 10% of the Dutch population being first or second generation non-Western immigrants, the ability to integrate cultural diversity, including religious diversity, is important. The results of the study showed that, based on a 90% survey response rate (N=277) and subsequent interviews with 17 students, there was a strong interest on the students' part for education in cross-cultural medicine. The issue of training in physical examination was an important theme. Although religion, *per se*, is not sufficient reason to preclude mixed gender physical examination, the students stressed their belief that serious religious objections to cross-gender examination by the patient, especially including genitalia, should be respected. Religion is also regarded as an important factor in medical education because some students, notably Muslim and Protestant students, ranked it as contributing to their profession-

alism (compared to their Roman Catholic or "other" religious peers). At the same time, those two groups also indicated that they believe their religion also presented obstacles to the patient-physician interaction. The importance of religion in an increasingly diverse nation was also noted in a paper on contemporary psychiatric medical training in Israel [11]. Noting that attributions about illness and compliance with treatment varies is based in part upon religious factors, the authors argue for continuing medical education (CME) events for psychiatry residents in areas including religion, complementary and alternative medicine, substance abuse, and doctor-patient relationships. The increasing practice among Israelis of kabalistic and New Age movements, and of certain beliefs in Buddhism make competence in understanding how these religions view illness imperative for practicing psychiatrists. The authors note that much of what is being presented or studied stems from western (especially United States) epidemiology, and that Israeli psychiatric residents may actually be less familiar with disease prevalence in Israel than they are with epidemiology in the United States. Education based on local epidemiology – and local cultural factors -- is apparently lacking and in need of remediation.

Allen suggests that the curriculum for medical education in the West Indies should be rewritten to include spirituality, and offers a rationale [12]. He cites the World Health Organization (WHO) position paper (1995) which "observed that spirituality/religion/personal beliefs might contribute to the quality of life by aiding the individual to cope by giving structure to their experience, ascribing meaning to spiritual and personal questions, and, more generally, by providing the person with a sense of well-being." Allen also suggests that religious beliefs "deleterious to health" need to be "understood and explored", citing examples of these detrimental beliefs as "pathological guilt or anger at the non-fulfillment of magical expectation of cure." Allen uses American practices of integrating spirituality and healthcare in medical school curriculum as a support for doing so in the West Indies. He cites the Association of American Medical Colleges (AAMC) 1999 report recommending that a curriculum on spirituality include, among other things, "the ability to elicit a patient's spiritual history" and "understanding of...the role of clergy and other spiritual leaders and culturally based healers and care providers and how to communicate and/or collaborate with them on behalf of patients' physical and/or spiritual needs."

Lawrence disagrees with the concept of having physicians taking spiritual histories [13]. He writes, "Even the best ministers and chaplains among us, after years of academic and clinical training, find the taking of spiritual histories a complex one. The world of spirituality, religion, and the imagination is often impenetrable, even by the most skilled and sensitive inquirer." Physicians' time and education, even with the addition of spirituality to medical school curriculum, is too limited to offer responsible care given the wide variety and nuances of cultural and spiritual realities. He notes that the language used in medicine is sufficiently different from that used in religion to make useful discourse an unrealistic pursuit. Although agreeing that spirituality has bearing on health, his perspective is that "physicians would do well to enlist the aid of clinically trained chaplains and others similarly trained to assist in that area."

In stark contrast to Lawrence, Larimore and colleagues "conclude that the evidence to date demonstrates trained or experienced clinicians should encourage positive spirituality with their patients and that there is no evidence that such therapy is, in general, harmful" [14]. They list the following organizations as ones calling for "greater sensitivity and better training of clinicians concerning the management of religious and spiritual issues in the assessment and treatment of patients: the American Psychiatric Association in 1989; the Accreditation Council for Graduate Medical Education in 1994, the Joint Commission on the Accreditation of Healthcare Organizations in 1996, the American Academy of Family Physicians in 1997, the American College of Physicians in 1998, and the Association of American Medical Colleges in 1998. While noting that "outcome-based, clinical research on the effect of spiritual interventions is almost nonexistent," Larimore *et al.* nevertheless affirm that there is evidence to support training "interested clinicians" including both physicians and social workers in basic spiritual intervention.

Lawrence and Duggal see a difference between the need to address spirituality in medicine and surgery and in psychiatry [15]. They note that in medicine and surgery, the failure to assess spiritual dimensions will only rarely have negative consequences—for instance when religious objections to a blood transfusion are raised. However, "in psychiatry, the omission could be seen as neglect to carry out a complete, fair, and thorough assessment." This is likely to occur because in their training, psychiatrists are taught to put their spiritual beliefs, or absence of them, aside. This often leads to a failure to consider the patient's spirituality as well which is seen as detrimental because "the spiritual dimension is intrinsic to any culture, and in many cultures almost inextricably entwined with conduct, morality, personal expectations and concepts of shame and psychological and social reward." Lawrence and Duggal note that psychiatry has "a history of ignoring, conflicting with and attacking religion," but see that stance as changing, and the American Psychiatric Association invites professionals to respect the patient's beliefs and rituals without enforcing diagnosis or treatment at odds with the individual's morality. They offer suggestions about how to conduct a spiritual assessment and suggest that the moral stance of the professional should always be "neutral, with no attempt to manipulate that of the patient. This on its own requires special training, and demands awareness of how an assessment might be influenced by personal beliefs and values."

### **Clinical Need for Religion in Medical Education**

Eiser and Ellis [16] believe that education in cultural variables should be based on understanding how specific cultural and historical factors influence medical encounters (rather than general cross-cultural communications training). Using the African-American experience as illustrative, they discuss the ways in which the history of slavery, "Jim Crow Laws", the infamous Tuskegee syphilis study, among other events, have shaped medical encounters. One unappreciated aspect of the African-American culture is the presence of Islam, which has increased in this group since the 1960s. Practicing, observant Muslims are more likely than other groups to equate a "good" physician with one who includes the role of faith in their practice (and explicitly in clinical

encounters) rather than treating the body simply as a machine to be diagnosed as "fixed." Without the inclusion of faith in clinical encounters, African American Muslims may have increased mistrust of the physician, which is related to lower compliance and poorer health outcomes.

Hunt and Voodg [17] present the results of an ethnographic study of 50 clinicians in the Texas who discuss prenatal testing with women, and 40 women, self-identified as "Latina," who had been offered amniocentesis for prenatal testing. They report a wide variation in the reasons given for declining amniocentesis between the groups. The similarity of clinicians' responses was notable, even though they came from various settings, and related to "claims ... in clinical journals regarding the presumed values, morals and beliefs of Latinos" which are infrequently (at best) substantiated by empirical findings. The disconnect in responses in this study suggests that much of what is "taught" or presented as education about cultural influences (including religious influences) may actually lead clinicians to make unwarranted assumptions about the healthcare choices of their patients. Some clinicians may alter the amount and content of medical information they provide. Although careful to note the limitations of their study, the authors raise the question of whether or not the trend towards promoting "cultural competence" could have unintended and negative consequences for patients, including promoting an image of cultural minorities as "others."

These papers exemplify issues raised by Sobo and Seid [18] in a paper questioning, "What *kind* of cultural competence is needed, and from whom?" They argue against the norm of understanding "culture" in terms suggesting that this is something that people of color have and that it is linked to their non-American or non-British or non-European heritage. Instead, they posit that all medical encounters are by definition cross-cultural events and that the competence needed by health care professionals is *communication* competence. Education on how one group or another has certain beliefs in common that will lead them to act in certain ways will not ultimately be helpful to either the clinician or the patient. Instead, the ability to ask questions or provide information in such a way as to be understood by the receiver is the fundamental need. Religion and spirituality are important facets of people's lives and have implications for their health [8, 19-21]. Practices vary so widely even within some faith traditions that it is impossible to be educated on the health implications of all faiths. Several of the papers cited show that patients want faith included in their health care. Doing so may even increase their trust in their physician and lead to improved adherence. Medical education should encourage learning how to communicate well between groups as a means to better prepare medical students and residents to deal with this aspect of their patient's and family's culture.

### **INTEGRATIVE MEDICINE**

Integrative medicine is a growing field which seeks to combine best practice from both conventional and complementary and alternative medicine (CAM). By its very nature, integrative medicine is healing, patient centered, and culturally sensitive. Leaders in the field of integrative medicine define their practice as "healing oriented medicine that takes account of the whole person (body, mind, and spirit), including all aspects of lifestyle. It emphasizes the

ing all aspects of lifestyle. It emphasizes the therapeutic relationship and makes use of all appropriate therapies, both conventional and alternative” [22]. The focus of integrative medicine is on utilizing the body’s own natural healing ability and incorporating the individual’s health beliefs, attitudes and culture into treatment decisions that may include both conventional and complementary and alternative medicine practices [23].

Although integrative medicine existed well before the 1990’s, the field has gained substantial momentum in the last few decades. Landmark studies in the 1990’s by Einsenhorn documented the widespread use of complementary and alternative medicine (CAM) treatments among healthy adults and adults with a range of chronic medical conditions [24]. Since that time, interest in the use of CAM has been the subject of hundreds of journal articles and more physicians have gained additional training as integrative medicine practitioners. CAM is generally divided into four types of health practices and these modalities are often utilized by integrative medicine practitioners: mind body medicine, energy medicine, manipulative or body based practices, and biologically based therapies (herbs and supplements). These non traditional practices often have roots in traditional health systems of other countries. For example, mind body medicine practices of yoga and meditation are rooted in ancient Indian health promotion and healing practices. Knowledge and use of many common herbs has roots in culturally accepted practice of Traditional Chinese Medicine.

Authors have explored reasons for the popularity of CAM use in the United States. Overall, research suggests that the prevalence of CAM use in the United States is high, with 42% of adults using some form of CAM and a lifetime prevalence of 60% [25]. CAM use is more prevalent among individuals of higher economic advantage, females, and individuals with chronic health conditions [26]. However studies of acculturation, health beliefs and CAM use among minority populations suggest that CAM use among this population is also high [27]. Many non traditional medical practices such as herbal remedies, use of acupuncture, and folk remedies continue to be culture bound despite acculturation, and have great meaning to patients who will likely use them in addition to, or in instead of, traditional medical practices recommended by physicians [28]. Bishop, Yardley and Lewis examined health beliefs that predicted CAM use and found that health beliefs related to control and participation, perceptions of illness, and general philosophies of life predicted use [29].

Complementary and Alternative Medicine (CAM) as a term has deep cultural significance. CAM refers to medications, herbs, supplements, or non biological treatments, such as massage therapy, used outside the accepted practices of western medicine, to treat symptoms or medical conditions [30]. The term conventional medicine implies that one system of health care is culturally accepted and practiced, where others are not. In fact, health practices indigenous to various cultural and ethnic groups are often characterized in the modern western medical literature as CAM.

For example, an entire body of medical literature has focused on the practice of traditional Chinese medicine by immigrants to the United States. This is an ancient, but well accepted and dominant medical system in East Asia. The

roots of Chinese medicine date back over 4000 years and are based on the keen observation of practitioners who noticed that certain herb and animals were useful in treating and curing illness [31]. Over time, the practice of growing herbs and compounding combinations herbs and animals to cure the root cause of illness has become incorporated into Chinese daily culture. The practice of Chinese medicine is still fairly prevalent among immigrants to the United States and thus it is important for medical students to be aware of these practices and have an appreciation of the value of these practices to Chinese culture. Ferro *et al.* found that traditional Chinese medicine use was more common among less acculturated Chinese immigrants who were recently diagnosed with cancer [32]. Wade *et al.* in a study of foreign born Chinese females, found that acculturation to United States did not coincide with a decreased use of traditional Chinese medicine [33].

Traditional Chinese medicine has influenced the practice of modern Integrative Medicine practice in the United States. The concept of “functional medicine” is a core value on which Integrative Medicine is practiced and it shares some similarities with traditional Chinese medicine in that the goal is to treat the root cause of illness, using both traditional medical knowledge and non traditional therapies such as herbs, mind body medicine techniques.

It is important for medical students to have an awareness and respect for the cultural significance of using these therapies to the patient. As in the case of traditional Chinese medicine, these therapies, from a Western perspective are considered CAM, but are culturally accepted as recommended treatment for their illness. In the case of individuals who chose to see an integrative medicine practitioner or other alternative health provider in addition to their physician, individuals may have many important cultural beliefs, health beliefs or life experiences that led them to choose this practitioner. In these situations, teaching medical students how to investigate potential side effects of herbs or other therapies that are being used, drug interaction or potential dangers of using these therapies with other traditional medication may be a more culturally sensitive and respectful and safe way to practice medicine.

Engbretson has described cultural constructs of illness and health, reminding health care providers that health practices are valued in the context of the culture in which they are practiced. Many therapies that are considered complementary in European/ Western medicine are central to the traditional healing system of other cultures [34]. Tension exists when physician beliefs and attitudes clash with traditional or dominant beliefs and practices of a particular culture’s healing system. Her work reminds medical practitioners of the relative nature of health practices and emphasizes the importance of mutual understanding and respect of the beliefs and health practices of other cultures.

Although much work is yet to be accomplished, the field of integrative medicine is uniquely positioned to practice and teach culturally competent medical care. Integrative medicine is built upon principles that incorporate treatment options from both conventional and alternative approaches, focusing on the whole person within the context of their personal, spiritual, and societal/cultural beliefs about health and illness. Integrative medicine places an emphasis

on optimizing health, nutrition and prevention and minimizing the impact of disease on quality of life. Embedded within the practice of culturally competent health care and integrative medicine is the ability to adapt or change practice based on the health beliefs of the patient or family system in order to deliver optimal care for that patient. Integrative medicine draws practices from not only conventional medicine but also the best practices of eastern medicine and health practices of indigenous cultures. The ability of integrative medicine practitioners to draw from all of these concepts maximizes flexibility in delivering culturally sensitive health care.

In the U.S., one of the most substantial advancements in relationship to advancing medical education around integrative medicine was the establishment of the National Center for Complementary and Alternative Medicine (NCCAM) as a branch of the National Institutes for Health (NIH). This branch of the NIH was established in response to public interest in complementary and alternative medicine (CAM), defined in the law as health promotion, illness prevention, and healing practices that are outside what is considered to be conventional medicine. NCCAM was charged with training researchers, establishing efficacy of CAM therapies, and disseminating authoritative information regarding CAM therapies [35].

Establishment of NCCAM in 1998 allowed for a major CAM education initiative to occur in United States Medical Schools. Between 2000 and 2002, the National Center for Complementary and Alternative Medicine (NCCAM) funded fifteen academic medical centers across the country to participate in the CAM education project. These centers were charged with developing and implementing an integrative medicine curriculum. At the end of the CAM education project, principal investigators were interviewed to identify important aspects of effective integrative medicine curricula. Six core competencies were proposed, with cultural competency identified as one of the important competencies of an effective integrative medicine curriculum [36].

Excellent resources are now available to institutions interested in establishing a more effective integrative medicine curriculum within their institution. A significant body of work describes effective strategies for establishing an integrative medicine curriculum within medical education. Most notably, the Consortium of Academic Medical Centers for Integrative Medicine education workgroup published an extensive curriculum that can be used by other institutions who desire to integrate these concepts in to medical education [37]. Cultural competency is directly addressed in many of these models with case studies of patients from various cultures presenting with varying health beliefs and practices. These case examples are an excellent starting point for discussion of teaching the value of communicating and understanding health beliefs of various cultures.

## **OSTEOPATHY**

### **Osteopathic Medicine**

The roots of Osteopathic Medicine lie in its philosophy of medicine - focusing on the body as a unit. In 1874, an American physician by the name of Andrew Taylor Still, MD developed a system of medicine where the musculoskeletal system was the key element of health. Having lost

three children to meningitis, Dr. Still was dissatisfied with modern medicine of his time and viewed many medications as useless or even harmful, thus motivating him to discover definite cures and preventions. Studying medicine from a wellness perspective, he postulated that in knowing health, he could understand disease. In his words, "...to find health should be the object of the doctor. Anyone can find disease" [38].

In the quest to find the perfect system of medicine, Dr. Still studied various religious philosophies and concepts of the period, including those of Methodists, Spiritualists, and Universalists. These influences permeated his ideas for healing and helped develop a focus on more global health priorities including mental, emotional, and spiritual well-being. Not surprisingly, Dr. Still also viewed alcohol, drugs, and other unhealthy habits as a hindrance to the body's natural ability to heal.

In this system of osteopathic medicine, he required that a detailed foundation of anatomy is essential for diagnosis and treatment, empowering "treatment of physical and mental ailment while emphasizing the normalization of body structures and functions" [38]. It is from these beliefs that the practices of palpatory diagnosis and manipulative treatment evolved, continuing the conviction that the physician's job is to correct structural dysfunction and return the body to its normal state [38].

### **Osteopathic Medical Education**

The first school of osteopathic medicine, the American School of Osteopathy, was founded in Missouri in 1892. The course of study developed by Dr. Still and, embodying his philosophy, was composed of four principles, also known as the four tenets of osteopathic medicine: 1) the body is a unit, 2) the body possesses self-regulatory mechanisms, 3) structure and function are interrelated, and 4) rational therapy is based upon an understanding of these. The first class of osteopathic physicians consisted of 21 men and women, and the state of Missouri recognized the curriculum as equivalent to Doctor of Medicine training. Dr. Still insisted on a distinctive degree and graduates were awarded the degree *Diplomat in Osteopathy* [38].

Throughout the early 1900s, osteopathic training expanded and five osteopathic colleges were constructed in the United States (US), of which the current A.T. Still University/Kirksville College of Osteopathic Medicine is one of the originals. Within these institutions, the osteopathic curriculum remained distinct from the allopathic curriculum in two areas: the addition of osteopathic concepts/content and the omission of pharmacology (the latter due to Dr. Still's continued belief that medications were harmful). Osteopaths would later incorporate pharmacology into their practices, and by 1920 osteopathic colleges included pharmacology in their curriculum [38].

Since that time, osteopathic medical education has evolved but continued to maintain its historic culture and principles. With wellness and restoration of body function as basic tenets, the current United States osteopathic curriculum consists of a four year program, similar yet distinct, from the allopathic curriculum. The model, shared with most allopathic programs, consists of basic sciences in the first two years and clinical experiences in the last two years. In addi-

tion, the osteopathic curriculum emphasizes the four tenets of osteopathic medicine throughout all four years, while simultaneously educating about osteopathic practices, including the benefits of osteopathic manipulative treatment for prevention, diagnosis and treatment of disease [38].

This osteopathic curriculum has been described as a “health promotion curriculum” addressing the physical, social, and spiritual dimensions of health [39]. While allopathic students rarely receive formal spirituality courses in their training, a recent study revealed that over half of osteopathic programs implement some form of spirituality-in-medicine instruction. Closely related to this spiritual dimension in medical education is the necessary and parallel education on end-of-life care. As noted by Rothman & Gugliucci, while both allopathic and osteopathic schools integrate end-of-life care into courses or clerkships, osteopathic schools more often require a course focusing on end-of-life care [40].

Colleges of osteopathic medicine have nearly identical prerequisites to allopathic medical schools. However, similar to the cultural diversities of the two training systems, students applying to and accepted by osteopathic institutions are often diverse and non-traditional and bring experience beyond their prior education. According to the certifying body for osteopathic physicians (DOs), the American Osteopathic Association (AOA), “prospective osteopathic medical students must exhibit a genuine concern for people,” and osteopathic medical schools look for students who are “well-rounded...have good communication and interpersonal skills...have participated in a variety of extracurricular activities...and come from diverse backgrounds” plus many more personal qualities [41]. Accordingly, Peters *et al.* describe that, when comparing the cultures of osteopathic and allopathic medicine, osteopathic students were more likely from rural areas, more often planned to practice primary care, and described themselves as “socioemotionally oriented” [42].

Osteopathic medical schools that train medical physicians exist only in the United States. Currently there are 25 accredited colleges of osteopathic medicine in 28 different locations across the US with over 3000 graduates annually [41,43]. In order to become fully licensed to practice medicine or surgery in all 50 states, graduates must complete a one year accredited internship and pass the osteopathic and/or allopathic medical board exam.

### Osteopathic Graduate Medical Training

Similar to their allopathic counterparts, fourth year osteopathic students must determine their anticipated specialty and postdoctoral education. This process is no small feat for any near-graduate of medical school, but for osteopathic students it continues their already diverse and non-traditional path. While both osteopathic and allopathic students will choose their specialty, intended internship/residency training sites, and national matching system, osteopathic students must also consider the type of training (i.e. osteopathic v. allopathic) program they wish to enter. This difficult decision has both short-term and long-term implications from determining potential internship/residency site selection, match direction, training capabilities, core competencies and research opportunities, to future employment and subspe-

cialty training possibilities, and long-lasting professional/academic affiliations.

Historically, osteopathic physicians were limited to one of two postdoctoral education options: AOA-approved internship plus an AOA-approved residency or American College of Graduate Medical Education (ACGME)-accredited residency. More recently, however, efforts to change the path of DO trainees have been made by the AOA and the ACGME by first dually-accrediting more ACGME programs and second, restructuring AOA-approved programs. These alterations address the current trends in choices that graduating DOs desire for post-doctoral training.

Osteopathic medical education has historically focused on prevention, and its clinical education has traditionally occurred in community hospitals, outside of major academic teaching institutions. Rural clinics and hospitals have become a model for osteopathic primary care education and training, thus affecting potential trainee choices. Aguwa *et al.* determined that osteopathic student specialty choices were affected by early clinical experiences in community-based programs, which are thought to reflect the culture of osteopathic medicine in that it is community based, primary care oriented, and comprised of a medically underserved population [44]. Potential trainees interested in non-primary care specialties, subspecialties, and/or academic/research careers often opt for other types of training programs.

In response to the changes in newly graduated DO specialty interests, the AOA has expanded non-primary care osteopathic training institutions. As revealed by the Journal of American Osteopathic Association in 2005-2006, nearly twice the amount of residents entered training in emergency medicine (401), compared to internal medicine (237), and four times as many residents entered training in orthopedic surgery (252), compared to pediatrics (63). In that same year, the collectively specialties of anesthesia, dermatology, emergency medicine, general surgery, obstetrics/gynecology, otolaryngology/facial plastic surgery, orthopedic surgery, and radiology accounted for over 50% of residents in osteopathic residencies and nearly 40% of the total in AOA-accredited training programs [45].

Recently, more osteopathic trainees in allopathic programs are introducing the cultural aspects of osteopathic medicine into their graduate medical education. They are expanding their current ACGME curricula with emphasis on osteopathic principles and practices. One such program, described by Rubeor *et al.* occurred at Brown University’s ACGME-accredited family medicine program, where both osteopathic and allopathic residents were able to benefit from these changes. Development of this program included creation of an osteopathic clinic and osteopathic educational activities. A follow-up assessment of the program outcomes showed three strengths of the clinic: “(1) maintaining of OMM (osteopathic manipulative medicine) skills, (2) benefits to patients, and (3) integration of OMM” [46].

### Osteopathy in Practice

Within the crossovers of osteopathic and allopathic training programs, as well the increased subspecialty diversity, concerns have been raised regarding loss and diminishment of the cultural principles and practices unique to osteopathic medicine. One practice highly recognized within this issue is

the practice of osteopathic medicine therapy (OMT). Discussions and studies regarding the use of OMT and its potential demise are controversial. In a 2001 survey of osteopathic physicians, over 50% of respondents stated that they used OMT in less than 5% of their patients. Factors influencing the application of OMT in practice that were cited included subspecialist versus a family practitioner, and allopathic versus osteopathic postgraduate training programs [47]. Although historic and current cultural differences exist within the practices of osteopathic and allopathic medicine, it is likely that discussions regarding these differences and the future of osteopathic medicine will continue.

Current cultural practices of osteopathic medicine expand beyond the use of OMT and demonstrate that osteopathic physicians are competent, effective, and good communicators. Carey *et al.* revealed that communication skills of primary care DOs and allopathic physicians (MDs) differ significantly. Comparing allopathic physicians and osteopathic physicians (with similar office visit lengths), DOs had “consistently higher scores” in verbal interaction and were more likely to “use the patients’ first names; explain etiological factors to patients; and discuss social, family, and emotional impact of illnesses” [48].

The field of osteopathic medicine continues to grow, and, as noted earlier, DOs are becoming more commonplace in all specialties. According to the AOA, osteopathic physicians are one of the fastest growing health care professionals in the US, and it is anticipated that by 2020 there will be over 100,000 DOs in active medical practice [41]. Worldwide, however, osteopathic medicine and the term DO does not always have the same meaning, nor are DOs trained in the US able to provide comprehensive medical care outside of the US and Canada.

Currently, US-trained DOs are licensed to practice medicine and surgery in the US, and have unlimited practice rights in approximately 50 countries with partial practice rights in many others. In European and Commonwealth countries, however, osteopaths practice manual medicine exclusively, and in the UK, osteopaths are seen as complementary providers, similar to Doctor of Chiropractic in the US. For this reason, US-trained DOs often have limited practice capabilities in other countries. The AOA recently established a Council on International Osteopathic Medical Education and Affairs (CIOMEA) to oversee AOA international activity and monitors changes/developments in US-trained DO regulations abroad [41].

### **Osteopathy and the Future**

The field of osteopathic medicine has grown considerably since Dr. Still envisioned it in the late 1800s. Present day osteopathic education, training, and practice continue to emulate and uphold the strong osteopathic tradition and cultural beliefs. Although osteopathic medicine has historically been oriented towards primary care, there is now expansion and diversification of the field, which aids in and contribute to a broadening of the osteopathic physician workforce. While maintaining core osteopathic principles and practices, osteopathic medical education and training continues to broaden in both specialty opportunities and incorporation into allopathic programs. DOs today work side-by-side with MD practitioners, together striving for increased standards of

care using evidence-based medicine. As these medical cultures continue to blend, now and in the future, osteopathic physicians have the unique opportunity to educate students and trainees of both osteopathic and allopathic fields, while continuing to improve osteopathic practice by focusing on core principles and evidence-based care. Within these opportunities and practices, osteopathic physicians will continue to seek the ideal Dr. Still imagined so many years ago – to bring about a system of medicine that cares for all patients by focusing on the “whole patient.”

### **CONCLUSION**

Heath is a multi-faced construct, understood and valued differently in different cultures. Competent practice of the healing arts is respectful of the ways in which culture influences health and health care. Some of these may be implicit or subtle (such as religion) or outside of the dominant cultural view of healthcare (such as osteopathy and integrative medicine) but these influences are growing in importance to the population and health care professionals alike. This means that medical educators must prepare their trainees to practice in ways that take culture into account. This does not mean that the professionals must agree with, or provide care simply because it is what the patient wants. It does mean that the professional must maintain open communication to understand what the patient’s goals are and to seek ways in which the patient and professional can work together—using whatever means are at their disposal—to promote health and restore wholeness to the individual. The inability or unwillingness to do this may undermine the professional/patient relationship and lead to poorer health outcomes.

Several of the cited studies demonstrate widespread and growing use of religion and or other aspects of integrative medicine as “treatments.” The number of osteopathic medical professionals, and thus the number of people being cared for by these professionals, is growing, and the field is developing with increasing interest in specialization. The population from which patients come is increasingly interested in and making use of these modalities. Culturally respectful medical education takes these areas into account within the curricula, enabling future providers to understand these modalities and to make the most appropriate use of them to promote a patient’s health and well-being.

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