Andrew Taylor Still and the Mayo Brothers: Convergence and Collaboration in 21st-Century Osteopathic Practice

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Born in Lee County, Virginia, in 1828, Andrew Taylor Still, MD, DO, witnessed the ravages of many of the infectious diseases prevalent in 19th-century America while traveling the country as a boy with his father, who was both a physician and a Methodist minister.

At the time, the practice of medicine was a cottage industry with few proven treatments. Therapies often were concerned with ridding the body of disease rather than returning the body to health. There was little standardization or evidence-based practice at the time.

As a young surgeon, Dr Still witnessed the inadequacy and lack of scientific basis for contemporary medical practice. Dr Still saw osteopathy as a science and philosophy. The science was the understanding of anatomical, structural, and functional relationships. The philosophy was that by maintaining normal structure, homoeostasis and health could be maintained. Dr Still grew to understand that illness was more than the interaction of infectious agents with their hosts; the whole person and his or her family could be devastated by disease.

Dr Still was one of several visionary physicians who emerged from rudimentary 19th-century medical practices to seek improvements in the way healthcare was delivered. In 1863, a frontier surgeon and British emigré named William Worrall Mayo, MD, arrived in Rochester, Minnesota, to examine Union soldiers prior to enlistment—around the same time that Dr Still was establishing his practice in rural Missouri. Both of these visionaries would champion improvements in the existing system of medicine by basing it on more rational and scientific models.

Dr Still envisioned the patient as a complex unit, encompassing mind, body, and spirit. He believed that structure and function were integrally related and that he could use manual therapy to restore health.

Attracted by Dr Still’s successful treatment of previously “untreatable” illnesses, many physicians began to embrace his philosophies, adopt his techniques, and support the establishment of a new kind of medical practice known as osteopathy. People came from throughout the United States to Kirksville, Missouri, to learn osteopathic principles and practice. Dr Still shared his methods with others freely, demonstrating the benefits of osteopathy in the maintenance of health and the treatment of disease. In 1892, he established the American School of Osteopathy with the primary mission of disseminating the principles and practice of this unique form of medicine.

Meanwhile, Dr Mayo’s sons, William James Mayo, MD, and Charles Horace Mayo, MD, (“Dr Will” and “Dr Charlie”) joined the family surgical practice in Rochester with a similar vision—to place the needs of the patient first. The Mayos believed that delivering the best medical care required that the physician was well educated in the latest scientific advances. In addition, they believed that a personalized, team approach should be taken to fully unravel the complexities of caring for an individual patient.

As medical knowledge expanded in the early 20th-century, so too did the Mayo brothers’ vision for this new collaborative approach, later dubbed the Mayo Model of Care. Mayo physicians felt this approach allowed them to provide the best care possible to each patient every day through an integrated approach. The Mayo Model of Care soon became the model for all group practices in the United States.
SPECIAL COMMUNICATION

And, again, people came from around the country—and throughout the world—to Rochester to learn from and be treated by physicians at the Mayos’ clinic.

Like Dr Still, the Mayo brothers too went on to establish a graduate school of medicine to prepare physicians for their model of care.

The Mayo Model of Care and the Osteopathic Difference

From the embers of late 19th-century American frontier medicine, two visionary models of healthcare founded on similar principles and honoring the primacy of the patient emerged. Their approaches differed, however. The Mayo Model of Care, as noted, emphasizes a team approach to solving “a problem”; while Dr Still’s model of osteopathy takes an integrative approach attuned to the specific needs of the body’s various systems.

In the 20th century, these two models diverged, with Mayo physicians developing into an integrated, specialty-focused practice while osteopathy remained focused on the individual.

Mayo physicians would contribute to and disseminate the most current medical information on recent innovations in patient care, research, and education throughout the 20th century. This single institution extended its reach, becoming the largest private medical group practice in the world. Mayo Clinic’s focus on continuous improvement and innovation, while adhering to the basic vision of the Mayo Model of Care, would continue to be the driving force in its long-term success.

At the same time, however, osteopathic medicine began facing many unfortunate legal and practice hurdles in its second century, forcing a generation of osteopathic physicians (DOs) to fight for their identity and practice rights, instead of concentrating their energies on innovation in research, education, and patient care.

While fostering excellence in patient care, much of the energy of the osteopathic medical profession has been spent in rebuilding osteopathic institutions and training future generations of osteopathic physicians. Unlike the Mayo group practice, which grew into a large, integrated model of practice, osteopathic physicians were scattered across rural and inner-city urban America, filling the medical needs of underserved communities.

But now, much of the difficult foundational work of building, establishing, and fortifying is complete. The torch is being passed to today’s young osteopathic physicians, who must now accept the new challenges of practicing medicine in 21st-century America using Dr Still’s model of osteopathic care.

However, for as much as things change, history bears important lessons. There are many similarities between our era and that of Dr Still’s: an almost–blind faith in pharmacologic solutions to treat disease and an overreliance on technology alone to solve health problems. Reports in the media on public perceptions of the depersonalization of patient care are all too common. The increasing complexity of health problems has resulted in subspecialized care and sometimes disjointed or piecemeal approaches to the management of disease, with each organ or tissue having its own “caretaker.”

As in Dr Still’s era, many patients today no longer feel whole. They find they are longing for someone to treat all of them, not just their symptoms. They wish to assert more control over their own healthcare decisions. All of these broad-based impulses have led to a growth in complementary and alternative approaches to healthcare.

Many within the profession wonder how osteopathic physicians will be able to meet the needs of 21st-century patients. What is the role of the osteopathic physician in the 21st century? How will osteopathic physicians demonstrate their uniqueness in a setting where specialized allopathic care is the norm?

There are clear roles and opportunities for osteopathic physicians who remain enlightened by Dr Still’s philosophy of patient care, education, and research. It is time, however, to innovatively renew Dr Still’s original model of patient care by taking advantage of an opportunity to incorporate some of the time-tested and popular features of the Mayo Model of Care.

Patient Care

Although osteopathic physicians are scattered broadly across the nation, information technology now provides us with the means to practice as an integrated team to deliver the best medical care to our patients. Osteopathic physicians serving in rural areas no longer need to rely on their experiences alone to aid their patients. Today’s osteopathic physicians can access the latest medical research and clinical practice guidelines through the Internet. Telemedicine, the use of visual and electronic technologies, will revolutionize the delivery of care in rural areas and urban centers. Already, this technology has enhanced the delivery of specialty care to rural areas and prisons, allowed expert interpretation of complex imaging, and has provided...
new opportunities to deliver timely and expert care to underserved populations. Recently, telemedicine protocols have been used to enhance vaccination rates in daycare settings, freeing parents from lost workdays.

Through the proper use of information technology, patients can feel empowered to make more informed healthcare choices. Although some may argue that these tools lessen patients’ needs for traditional office-visit interactions with physicians, this trend is mainly serving to change patient-physician dynamics.

Part of the wellness process involves patient empowerment. All the good intentions of the physician are lost when physicians are unable to motivate patients to participate in their own care. Therefore, physicians should embrace these changes as an opportunity to reshape their roles from decision-makers to consultants and educators who help patients maintain and restore their own health. Because osteopathic physicians have long understood this role intuitively, they are well positioned to take the lead in this new information-savvy age.

Osteopathic physicians have incredible opportunities for expansion—in terms of numbers and influence—as medical care moves from an organ-specific model to a cellular, molecular, and genetic model in the coming decades. Scientists continue delving more deeply into the fundamental building blocks of humanity. Many of these technological advances require acts of “splitting”; that is, making pieces of the whole ever smaller so we can begin to grasp the workings of each part. “An osteopath,” says Dr Still, “is only a human engineer who should understand all the laws governing his engine and thereby master disease.”

As a consequence, humankind will continue to witness profound breakthroughs in our understanding of the molecular and genetic basis of health and disease—and there will be a continued corresponding rise in specialization. However, there will always be a great need for someone to bridge the gap, to translate these advances for daily use, and to integrate them into comprehensive and compassionate care of the whole patient.

**Research**

For far too long, research in osteopathic medicine has been riding in the backseat. Osteopathic research needs to be the driving engine of the profession. Fundamental discoveries in genetics, molecular biology, pharmacology, and biotechnology will drive the changes in healthcare in the present century. The osteopathic medical profession needs to be at the forefront of structure-function relationships at the genetic and molecular levels—the new frontier for American medicine in the 21st century.

Dr Still was a keen observer and investigator. Though he lacked the current understanding we have on the immunologic and molecular level, he was a visionary with regard to understanding the fundamental interactions necessary to help humans maintain their health. He would have readily understood that osteopathic physicians must be at the forefront of medicine and groundbreaking research, as these changes will propel approaches to healthcare in the present century.

Clearly, Dr Still envisioned osteopathy as more than manipulation. He saw manipulation as a tool to impact structure-function relationships and enhance the body’s ability to heal itself. Research opportunities exist to understand the basis of these relationships and their impact on patient outcomes. Other questions the profession must address are:

- How does osteopathic manipulative treatment (OMT) affect the immune response?
- What are the roles of various osteopathic manipulative techniques on the release of pro-inflammatory cytokines?
- Can OMT enhance the delivery of various nutrients and pharmacologic agents?
- What is the impact of OMT on gastrointestinal motility and function?
- How can osteopathic physicians ensure that a person receives the best form of OMT for his or her particular needs?

Osteopathic physicians should also reflect on the general impact of the osteopathic model of care on patient outcomes and resource utilization:

- Does the delivery of OMT differ among providers? If so, how?
- Is there a way to standardize the delivery of OMT?

Each and every college of osteopathic medicine needs to become involved in research specifically designed to address all of these questions—and they should encourage an environment where such inquiry can flourish among their students.

**Education**

How can we reenergize osteopathic medical education in the new century? Again, the answers can be found in Dr Still’s principles, posing a new set of questions that will revise osteopathic principles and practice for the new medical and scientific era:

- What tools has Dr Still provided that could be shared with future osteopathic physicians?
- What social, economic, and technological advances can osteopathic physicians use to improve patient health?
How best should we deal with the complex issues faced by the chronically ill and elderly?

Osteopathic medical schools must continue to provide the tools necessary to our students—and to develop innovative curricula—that will encourage them to begin answering these questions, allowing them to address larger societal needs.

Conclusion

Clearly the practice of medicine in the 21st century is quite different than what Dr Still observed in the 19th century. The leading health problems facing our nation demand our attention and action. The burden of chronic disease, cancer, obesity, heart disease, and acquired immune deficiency syndrome should be a call to action for all in the medical community.

Who better to see the full impact of obesity on the whole person—a bariatric surgeon or an osteopathic physician? Who better to see the total impact of chronic heart disease—an interventional cardiologist or an osteopathic physician? Who better to understand how chronic disability affects the structure and function of the elderly patient? The answer to all of these questions is the same: the osteopathic physician, resoundingly.

Osteopathy can be a model not only for individual patients but for populations and the healthcare system as a whole. The osteopathic medical profession is uniquely positioned to meet the needs of patients in this new era. Who better to look at the role of structure and function on health dynamics in our society? Who better to understand how the role of community violence, domestic abuse, and the breakdown of family structures has had an impact on the structure and health of our society? Who better to develop an integrated health policy for the entire nation?

The potential to answer all of these questions presents opportunities for the next generation of osteopathic physicians. Indeed, our vision of the future looks as bright as Dr Still’s must have looked to him.

Let’s seize our opportunities!

References