

**Why the Generalist Became a Specialist:
A History of General Practice and Family Medicine
By Nikitas J. Zervanos, MD**

Physician, teacher, author and historian, few within Family Medicine are more qualified to tell the story of the specialty than Dr. Nikitas J. Zervanos.

The son of Greek immigrants, Dr. Zervanos graduated from the University of Pennsylvania School of Medicine in 1962. After serving in the US Army Medical Corps, he completed residency programs in Philadelphia as well as a fellowship in the Family Health Care Program at Harvard Medical School. In 1969, he served as the founder and director of the Family Medicine Residency Program at Lancaster General Hospital in Lancaster, Pennsylvania, and has held faculty appointments at Temple University School of Medicine, Penn State College of Medicine, Harvard Medical School, and the University of Pennsylvania School of Medicine.

His service within the specialty of Family Medicine has earned him numerous awards, including STFM's Certificate of Excellence in 1987; the Pennsylvania AFP's Leadership Award in 1990; the AAFP Thomas W. Johnson Award for outstanding contributions to Family Practice Education in 1996 as well as the AAFP John G. Walsh Founders Award in 2000; and the Pennsylvania Medical Society's Distinguished Service Award in 2009. In addition, the AAFP and AFMRD jointly sponsor an award in his honor—the Nikitas J. Zervanos Outstanding Program Director Award—which recognizes a Family Medicine director “who has demonstrated leadership and advancement of the specialty, service as a mentor to residents and medical students, and service to the community as well as to the organizations of the Family of Family Medicine.”

The author of nearly 50 publications, papers and scientific book reviews, Dr. Zervanos is a longtime member of the American Medical Association, American Academy of Family Physicians, Society of Teachers of Family Medicine, Pennsylvania Academy of Family Physicians, Pennsylvania Medical Society, Lancaster City and County Medical Society, The College of Physicians of Philadelphia, and the American Hellenic Education Progressive Association.

This history of the specialty by Dr. Zervanos has been condensed and extracted from his forthcoming book “A History of General Practice and Family Medicine in Lancaster County, Pennsylvania.”

INTRODUCTION

I suspect most Americans are not aware that family practice became a formal specialty in 1969. It was established more than forty years ago with the formation of the American Board of Family Practice, now the American Board of Family Medicine (ABFM). You might ask why? How we managed to create a specialty in family medicine is both a lesson in the history of medical education as well as that of medical practice in the United States.

This three-part story will explore how the general practitioner evolved into the specialty of family medicine, during a time when both critical medical education and health care reforms were developing throughout the country. Part I will take a look at the early American physician generalist, who practiced during the period 1700 to 1893; Part II will examine the rise of specialization and the concomitant decline of the general practitioner from 1893 to 1969; and finally, Part III will describe the establishment of the specialty of family medicine and the development of family practice residency programs throughout the United States during the period 1969 to the present.

PART I: The Early American Generalist: 1700 - 1893

The first European physicians arrived in the American colonies during the early 1700's. There were an estimated three thousand physicians in the colonies during the colonial period, but probably not more than five percent of those claiming to be physicians had a formal medical education. Those with a formal education and established ethical conduct were identified as "regular" physicians. Thus the regulars were clearly distinguished from the many others without any formal education; and those with a mediocre reputation or completely out of the mainstream were viewed as quacks. (1)

Those physicians who were formally trained were mostly educated in the schools of England and Scotland, and to a lesser extent in Holland, France, or Germany. Many were graduates of the University of Edinburgh's School of Medicine, which, during the 18th century, was considered to be one of the leading medical schools in Europe, if not the world. Hence this school had a decided influence on medical practice throughout the pre- and immediate post-Revolutionary period in America, and even into the early 19th century. (2)

Pre-eminent among the "regular" physicians was Dr. Benjamin Rush (1746-1813), who is perhaps best known as one of the signers of the Declaration of Independence. Born near Philadelphia in 1746, Rush was one of seven children. At the age of five, his father died, and several years later he was sent to live with a maternal uncle, the Rev. Samuel Finley, who gave him his early education. By the age of 15, Rush had earned a bachelor's degree from the College of New Jersey (now Princeton University), and then went on to study medicine for five years as an apprentice under Dr. John Redman of Philadelphia. After completing his apprenticeship, Rush went on to earn his medical degree from the University of Edinburgh in 1768, and then underwent additional training at St. Thomas' Hospital in London. The following year, he returned to Philadelphia, where he began his medical practice and also served as professor of chemistry at the College of Philadelphia (now the University of Pennsylvania.) (3)

Dr. Rush was, in every sense of the word, a general practitioner. In recalling his early years in practice, he would later write that he "led a life of constant labor and self-denial," often hearing "the watchman cry 3 o'clock before I have put out my candle" for the night. In his autobiography, entitled "Travels through Life," he noted:

"My shop was crowded with the poor in the morning and at meal times, and nearly every street and alley in the city was visited by me every day. There are few old huts now standing in the ancient parts of the city in which I have not attended sick people. Often have I ascended the upper story of these huts by a ladder, and many hundred times have been obliged to rest my weary limbs upon the bedside of the sick (from the want of chairs) where I was sure I risked [sic] not only taking their disease but being infected by vermin. More than once did I suffer from the latter. Nor did I hasten from these abodes of poverty and misery. Where no other

help was attainable, I have often remained in them long eno' to administer my prescriptions . . . with my own hands. I review these scenes with heartfelt pleasure . . .” (4)

During the American Revolution, Dr. Rush served for a time in the Continental Army as a surgeon and physician, and authored the book *Directions for Preserving the Health of Soldiers*, which became, according to medical historian George Gifford, “a pioneering work in the field of military hygiene that was to be reprinted for practical use as late as the Civil War.” After the war, in 1786, he opened the first free dispensary in the country; and during an epidemic of yellow fever that struck Philadelphia in 1793, he stayed in the city and worked tirelessly to try to stem the spread of the disease. His account of that epidemic, entitled *Medical Inquiries and Observations: containing an account of the bilious remitting and intermitting yellow fever*, won him international acclaim. He was also an early pioneer in both the therapeutic treatment of addiction as well as the treatment of mental illness, and according to one source, “constructed a typology of insanity which is strikingly similar to the modern categorization of mental illness.” (5)

Also--far ahead of his time--Dr. Rush was an early proponent of tobacco cessation, as evidenced from this statement from his 1798 work *Essays Literal, Moral and Philosophical*:

“Were it possible for a being who had resided upon our globe, to visit the inhabitants of a planet, where reason governed, and to tell them that a vile weed was in general use among the inhabitants . . . which afforded no nourishment—that this weed was cultivated with immense care- that it was an important article of commerce-that the want of it produced real misery- that its taste was extremely nauseous, that it was unfriendly to health and morals, and that its use was attended with a considerable loss of time and property, the account would be thought incredible, and the author of it would probably be excluded from society, for relating a story of so improbable a nature. In no one view, is it possible to contemplate the creature man in a more absurd and ridiculous light, than in, his attachment to TOBACCO.” (6)

Yet, despite his eminent training and standing among the physicians of his day, he was not without error. In fact, he became so fond of the practice of bleeding his patients (a popular treatment at the time) that he acquired the nickname “Dr. Vampire!” (7)

However, as noted previously, regulars formed only a tiny minority of physicians in America during this period, and educational standards amongst physicians varied wildly. As no standardized system yet existed for training and certifying physicians for practice, many of those without a formal medical school education (known as the “non-regulars”) were either self-educated or served as assistants to practicing physicians. These assistants, or “apprentices,” learned from their mentors through a process which often included both required reading and actual instruction provided by the physician. After an agreed upon period of learning (usually three to five years) the apprentice would be

considered qualified to go out on their own to set up their own practice. At the conclusion of the apprenticeship, certificates were provided by the physician that indicated that his apprentice had successfully completed the apprenticeship, and that they were presumably qualified to enter practice. Thus, for the vast majority of physicians in early America, self-study and/or the apprenticeship model would be the extent of their medical training. (8)

A rather typical example of a non-regular physician was Dr. Benjamin Musser of Lancaster County, Pennsylvania (1749-1820), who was the first of a long line of Musser physicians. Benjamin received no formal medical school training and in fact, it is not entirely clear where he acquired his medical training; indeed, he appears to have come into medicine only later in life, as a second career. He was a farmer when he married at age 21, and it was not until he was well into his second marriage (sometime around 1800) that he was known to be practicing medicine. By this time, his family was living on the second floor of their homestead, while the first floor was used both as a medical office and apothecary with three adjoining rooms. These rooms were utilized to keep his patients overnight, in what well may have been the first “hospital” in the area. Dr. Musser eventually became well known for the treatment of “white swellings” (now known as tuberculosis of the bones and joints) and the use of his “White Salve” for the treatment of ulcers. (9)

Another member of the Musser clan, Dr. John Musser, also apparently practiced in the area at this same time. Among both regulars and non-regulars, many physicians were the sons of physicians, and two of Dr. Musser’s sons studied with their father without further formal medical education. A great-grandson of Dr. John Musser, John H. Musser, M.D. (1856-1912), later became a well-known diagnostician, an expert in the management of gallbladder disease, and served as president of the AMA in 1903-1904. It was during his tenure as president that the AMA began to critique the medical education system and even developed a grading system of the nation’s medical schools, giving an A for the best schools and a D for the worst. (10)

Like the Mussers, most of the non-regulars provided medical care respectably, and were not considered quacks. That said however, early America was a hotbed of quacks, many of whom were itinerant salesmen or entrepreneurs, selling “medicines,” others performing some instant magical “cure,” or administering miraculous potions, making their money, and then moving on to the next town. (11)

There were also the midwives and the apothecaries, some from England with real knowledge of medicines, but most with very little understanding of what effect drugs had on the body and its functions.

Midwives were always women (physicians during this period being almost exclusively male), although one remarkable exception to this rule does exist. A woman by the name of Susannah Rohrer Miller (1756-1815) was known to have practiced medicine. This remarkable woman, married with ten children of her own, came from a family of devout Christians. Her life was motivated by her faith and deep devotion to the care of the sick

and the alleviation of suffering. Along the way, she learned midwifery, and assisted and learned what she could from other physicians. One of her most impressive accomplishments was her passionate endorsement and administration of the Jenner vaccine based on Jenner's observation that cowpox pus could prevent the deadly smallpox in humans. Despite the skepticism by many of Dr. Jenner's work, Susannah became zealous about vaccinating as many people who would agree to it. She was highly sought after for both her compassion and her skills, and attended a total of 1,667 births in her lifetime. Her fame spread throughout Lancaster and neighboring York County, and when she died in 1815, there were an estimated 2000 people who attended her funeral. (12)

Although the apothecaries had a longstanding professional history and practiced their 'art' for over four millennia, it wasn't until the early 1600's that James I of England recognized the apothecaries as a special branch of medicine. In time, the apothecaries organized themselves as a unique "Society of the Art and Mystery of the Apothecaries of the City of London." As was the case in England, some apothecaries in the colonies, who acquired experience and more medical knowledge, also practiced medicine. As medical science advanced and medical practice became more sophisticated, there eventually developed a clear professional distinction between the learned physician and apothecary. However, it took almost 200 more years (by the late 19th century) before the apothecaries of England had to fulfill certain educational requirements, become certified, and acquire a license. (13)

There were some physicians who even utilized slaves as medical assistants, or if you will, as apprentices. One remarkable example was James Derham, who was born a slave in 1762 and grew up in Philadelphia. Three doctors owned him, one a Scottish doctor in Philadelphia, and the last, a practitioner in New Orleans. Under the tutelage of his Philadelphia master, he became quite knowledgeable and skilled in the management of respiratory illness. During his time in New Orleans, his physician master was so impressed with his acquired knowledge and skill level, that he encouraged him to practice medicine independently, and allowed him to buy his freedom in 1783. Derham eventually established a successful medical practice in New Orleans. Later, he traveled back to Philadelphia, where he met Dr. Benjamin Rush, who was duly impressed by Derham's skills. Rush convinced him to return to Philadelphia, and there he soon established a national reputation for his expertise in throat disorders and knowledge of communicable diseases. (14)

Money was another factor influencing physicians in their practice in those days. Most regular physicians earned a decent income, but not above average, and few became wealthy; many of the rural practitioners worked their farms, and many more were involved in other medically related ventures, such as the operation of their own drug stores. Many others chose to quit the practice of medicine altogether and became involved in full time farming or agricultural business, other businesses, law, or politics. In order to enhance their income, it was not uncommon for formally educated physicians or the so-called regulars to serve also as the "apothecary" within the local community,

and even operated the country store to include the sale of herbs for medicinal use, such as castor oil, sulphur, mustard, Cream of Tartar, and Glauber's salt (sodium sulfate). (15)

One prime example of the early American physician, whose national notoriety was the result of his military and political accomplishments, was the highly regarded General Edward Hand (1744-1802). Born in Northern Ireland, Hand attended Trinity College in Dublin, and then entered the British Army as a Surgeon's Mate in the 18th (Royal Irish) Regiment of Foot. In 1767, this Regiment was sent to Philadelphia and seven years later, Hand sold his ensign's commission and came to Lancaster County, Pennsylvania, where he established his medical practice. When the American Revolution broke out in 1775, Dr. Hand did not hesitate to join the Continental Army in July 1775, where he served not as a physician, but as a combatant, commanding at various times, a regiment and a brigade in the field. He also served for two years as the commander of Fort Pitt fighting British loyalists and their Indian allies. Becoming a close friend and confidant of General Washington, he was promoted repeatedly as Washington sought his advice and counsel and valued his leadership. He became his Adjutant General and by war's end, he reached the rank of brevet major general. After the war, he returned to Lancaster to re-establish his medical practice, while serving as a member of the Continental Congress (1783-1784), Presidential elector (1789), and Delegate to the Pennsylvania Constitutional Convention (1790). (16)

By necessity then, all physicians in the colonial period were generalists, and most, even with only apprenticeship training, performed surgery and whatever else they could to assist the ill and infirm and allow them to help make ends meet. It was not customary to distinguish "physicians" from "surgeons" during the colonial period, but over time, this began to change. Some physicians became so proficient in the surgical techniques of the day (limited that they were), that they concentrated their practice to surgery. Over time, their "expertise" in surgery would become known and their skills would be sought from far and wide, thus allowing them to demand higher fees for their services. Indeed, becoming a "specialist" gradually became more and more lucrative, and this created a strong incentive for physicians to become proficient in the technically or surgically oriented areas of medical practice. Later, as technology advanced and physicians acquired even more technical skills, more of these generalists simply devoted almost all of their time to surgery, or other specialized areas.

Regular physicians were viewed with due respect and were known to treat the poor and the well-to-do alike, regardless of race or immigrant status. However, even among the regulars, superstition played a major role in the belief of how diseases occurred, how epidemics spread, and how people died. These beliefs were used to advantage by quacks and even some of the irregular practitioners. (17)

Pre-eminent among those non-physicians who influenced medical thought and practice during the colonial period was Benjamin Franklin. Franklin provided his theory of the spread of the common cold in his Poor Richard's Almanac and the Pennsylvania Gazette. He viewed "colds" as contagious, and suggested that one did not catch a cold from a chill, but rather through the breathing in of someone else's breath in a closed space, such

as a room or in a house. Hence he promoted ventilation, as closed rooms put one at risk for “catching a cold,” and he therefore insisted even on cold nights to keep the windows open. (18)

Religion also played a role. As diseases were commonly thought by many to be the work of the devil and epidemics were a sign that God was displeased with His people, people often sought out others besides physicians to manage sickness. Ministers and itinerant preachers were among those who would serve as healers and “prescribe” herbs and even drugs based on formulae, described in books brought from Europe, and perform their brand of treatments. (19)

It is therefore not surprising that those in the ministry, who were among the most learned and educated in colonial society, were often called upon by their parishioners to look after their physical as well as their spiritual well-being. A rather typical example of this kind of physician-minister “hybrid” was the Reverend Dr. Henry Melchior Muhlenberg (1711-1787) of Lancaster, Pennsylvania. Rev. Muhlenberg wrote a remarkable diary describing his medical ventures. In it, he describes his experience with those who sought his medical advice. He even utilized local herbs and medicines he brought with him from Germany to minister to the sick, and even kept a book of formulae to help him make his own medicinal concoctions. He treated minor trauma, common psychosocial ailments and even common infections, such as measles and malaria, with reasonable success. Reverend Muhlenberg was highly respected in the local community and a number of his grandchildren and great grandchildren later became prominent Lancaster physicians, including Dr. Henry E. Muhlenberg, Jr., who was a successful surgeon and even mayor of Lancaster from 1899 to 1902. (20)

Another interesting physician-minister who practiced during the early period of American medicine was the Reverend William Stoy (1726-1801). A native of Germany, he was an unusually large man, described as tall with a gigantic frame with brute strength. He first arrived in America in 1752 and served parishes in Lebanon County, Philadelphia and Lancaster, and then returned to Europe to study medicine in Leyden. He then returned to Lebanon and practiced there beginning in 1767. He became famous because he was known to be able to cure hydrophobia, better known as rabies. His regimen included the mixture of one ounce of the herb, red chickweed, with four ounce of theriac or Venice treacle, and one quart of beer. It was dispensed as one wine glassful. (21)

By the latter half of the 18th century, as both the population of the colonies and the need for physicians grew, the pressure to develop formal schools for medical training based on the European model increased. One of the leading American proponents of formal training for physicians during this period was Dr. John Morgan (1735-1789). Morgan, a native of Philadelphia, was among the first graduates of the College of Philadelphia (University of Pennsylvania) in 1757. After serving in the British army, he studied medicine at the University of Edinburgh, where he earned his medical degree in 1763. Later, during the American Revolution, he also served as Chief Physician to the Continental Army from October 1775 to January 1777. (22)

Soon after his return from attending medical school at Edinburgh, Dr. Morgan declared the apprenticeship model simply inadequate to prepare physicians to care for the ill, and argued that those permitted to practice medicine needed to complete a formal medical school education. As a result, he co-founded the first medical school in North America, which was established at the College of Philadelphia in 1765. With the founding of the medical school the college became a university as it now contained both the college and the medical school. It was after the war that the school was formally recognized as the University (of the State) of Pennsylvania. Yet despite the establishment of a this well respected medical school in Philadelphia and other medical schools in the colonies during this period (at King's College, now Columbia University in 1767, Transylvania University in 1780, and Harvard University in 1782), the regulars were not able to bring about any uniformly acceptable standard for training or medical practice. (23)

Even well after the development of the first medical schools in the country, most physicians continued to be trained in a haphazard fashion. Far into the 19th century, uniform standards for physician training continued to be non-existent, and so the training physicians received varied widely. Some physicians acquired a formal medical education through an allopathic (i.e., "regular" model) medical school, while others continued to be trained solely through the apprenticeship model. Still others were products of different medical sects or "irregular" schools such as the Thomsonians and homeopaths that blossomed throughout the 19th century. But others continued to proclaim themselves as qualified physicians and were nothing more than quacks or charlatans, whose only qualification was to come into a town and hang up a shingle. Thus, as the 19th century waned, Dr. Morgan's call for a more formalized and standardized system of medical education still continued to go largely unheeded. (24)

Moreover, compounding the problem, medical education became a profitable enterprise. Throughout the 19th century, more than 400 proprietary schools were established in all parts of America. (25) Unfortunately, without clear standards, the quality of these schools varied considerably. Almost any enterprising physician could establish his own medical school. All it took to establish a school were for several enterprising physicians with reasonably good oratorical skills to obtain a charter from the state or territorial authorities and acquire a facility to include a lecture hall. The faculty would establish a curriculum, almost all of which was taught via a set of lectures to a group of students whose entrance requirements was the ability to read and write and pay the fees to attend the lectures. A high school diploma was not necessary. The clinical component to the medical student's education was, in most cases, rare to non-existent. In order for the student to acquire a degree, they simply had to attend the lectures over a period of 4 to 6 months. (26)

Another rather typical, yet notable example of a free-wheeling physician entrepreneur was George Kerfoot, M.D. (1808-1851) of Lancaster, Pennsylvania. Kerfoot, a native of Dublin, Ireland, immigrated to Philadelphia and then to Lancaster with his parents in 1818. As he grew to manhood, the family's personal physician, Samuel Humes, M.D., came to realize that young George was very bright and invited him to become his apprentice. Kerfoot then went to Philadelphia where he studied medicine at Jefferson Medical College, graduated in 1830, and returned to Lancaster to begin his medical

practice. The town of Lancaster with only 17,700 people already had more than one physician for every 425 people. Therefore, there was considerable competition among the doctors, and like so many other physicians, the enterprising Kerfoot chose to diversify. He opened an anatomical hall, and gave public lectures on a variety of topics including anatomy, physiology, magnetism, mesmerism, and even phrenology (the study of skull formation as an indicator of intelligence and character, a pseudoscience popular in the early 19th century). (27)

Like so many other physicians at the time, Kerfoot also operated his own drug store, known as the “Drug Store in Center Square.” He advertised extensively and promoted many remedies that people could buy and use based on what symptoms the patient had, not necessarily on what ailment they had. These products included: Epsom salts, Spirits of Turpentine, Thomsonian med, oil of vitriol, liquid opodeldoc liniment, gum camphor, African cayenne, and Oldridge’s Balm of Columbia, which he claimed treated baldness. He also promoted “Phoenix bitter,” which he claimed alleviated dyspepsia, asthma, piles, muscle aches, and headaches. He also sold surgical instruments, stethoscopes, brass and silver lancets, and stomach pumps. (28)

The *Sunday News* of the Lancaster Inquirer reported another fascinating story about Dr. Kerfoot. He was known to have negotiated with a convicted killer, who was to be hanged in the public square, and pay him \$5.00 to experiment on his dead body, by performing “galvanic (electric) stimulation on his relatively fresh corpse, one hour after his death. Kerfoot’s subsequent demonstration showed an awestruck audience the twitching and movement of Kobler’s arms and legs and even stimulated his diaphragm, which forced Kobler to bellow air in and out of his lungs! (29)

Although most medical schools during the 19th century were free standing, it eventually became more desirable to attach the school to a university as it enhanced the prestige of the medical school. Still the medical school did not have to abide by any of the university’s vigorous academic standards. While there were some exceptions to this pattern, this is nonetheless essentially how most medical schools were established in the 19th century. The level of competency of the physician was determined, not by his education, but by his own personal ethics and desire to acquire new knowledge and skills. This lack of uniform standards in training and practice eventually produced disastrous results: by the eve of the Civil War, during which time, both the North and the South found their physicians woefully prepared for the onerous duties they were called upon to perform. As a result of this—and combined with poor sanitation standards—more soldiers died of illness, including wound infections, than were actually killed in action. (30)

Thus, by the mid-19th century, America had many kinds of practitioners providing medical care of widely varying quality, and as the American public grew wiser, the call for medical education reform grew louder with each new generation. (31)

PART I: The Early American Generalist: 1700 - 1893

ENDNOTES

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