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Medical education in colonial America and early nationhood was a derivative of the British system based on the University and affiliated teaching hospital. The American system's graduates required the approval of state licensing agencies in order to practice. Beginning with the proliferation of proprietary medical schools in the 1820s, state regulations involving the quality of medical schools and their students were ignored, both of which rapidly became substandard. State agencies responsible for licensing restrictions were withdrawn in the Jacksonian era of deregulation for businesses and professions, and these for-profit medical schools prospered to the detriment of the quality of its institutions and graduate physicians. Attempts to reverse this trend by professional organizations, including state medical societies, the American Medical Association (AMA) formed in 1847, and the American Medical College Association (AMCA) formed in 1876, were unsuccessful. It was not until the 1880s that state boards of health were given the authority of its legislatures to deny graduates of the marginal medical schools access to the necessary licensing exams. Together with the AMA and the American Association of Medical Colleges (AAMC, previously the AMCA), they created the first "Reform Coalition."

In the first decade of the twentieth century the AMA developed its Council on Medical Education (CME) that conducted inspection surveys of the nation's 166 medical schools, and allied with the Carnegie Foundation administered a similar survey in 1909, known as "The Flexner Report," named after its chief investigator, the educator Abraham Flexner. Evaluating the quality of these institutions, Flexner concluded that only 31 met the necessary criteria to continue operation, which included only 6 southern institutions. Several of the failing

institutions, not selected by the CME or Flexner to remain viable, developed unique strategies to improve and become acceptable and eventually accredited medical schools over the next two to three decades. These strategies included the institutions becoming organic departments of state universities shedding their proprietary model, merging with other endangered medical schools and pooling their resources, and developing relationships with local hospitals to control an adequate number of teaching beds for their students' clinical exposure.

These borderline institutions also appealed to their community's pride and pragmatism and elicited financial support, gifts, and favorable publicity from local agencies, newspapers and politicians to build infrastructure and goodwill. Most importantly, these institutions made overtures to local wealthy benefactors and national medically-oriented philanthropies to build endowments and to develop relationships with regional "pathfinder" institutions to emulate their model, especially with assistance in academic and organizational issues). Employing these strategies during the education reform years sustained the South with fourteen complete medical schools (including three new institutions) and three preclinical institutions. Fortunately for the Allied cause, the last of the medical schools was in place on the cusp of World War II, when the South was able to provide quality healthcare for the region and the increased demand from those in the armed forces.

MEDICAL EDUCATION REFORM IN THE SOUTH, 1910-1941

by

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INTRODUCTION-THE CHALLENGE OF MEDICAL EDUCATION REFORM IN THE SOUTH

By the middle of the nineteenth century American medical education found itself trapped in a web of substandard medical schools that were releasing large numbers of poorly-trained physicians on a vulnerable public. Dominating this system were the for-profit, proprietary institutions that flourished in the freewheeling, underregulated *zeitgeist* of the Jacksonian era that encouraged entrepreneurship and free enterprise, frequently at the expense of community welfare.[1] This arrangement produced an excess of doctors whose medical education was neither current nor science-based and generated concern among groups of the better-educated "elite" physicians scattered among the many county and state medical societies. They recognized this problem as a growing public menace, especially those who had studied abroad. There, they also became aware of the progress western European country's medical institutions were making in the field of research and scientific discovery, endeavors ignored y the domestic medical schools.

This caused an unease among these concerned physicians and led to the formation of the American Medical Association (AMA) in 1847 and in their initial attempt to promote meaningful educational reforms among the nation's growing number of medical schools. Only minimally successful, their efforts were interrupted by the Civil War when many medical institutions, especially in the South and West, closed their operations. The AMA renewed their

[1] Lynn E. Miller and Richard M. Weiss, "Medical Education Reform Efforts and Failures of U.S. Medical Schools, 1870-1930," *Journal of the History of Medicine and Allied Sciences* 63, no. 3 (2008): 350-351.

mission in the aftermath of the war when Reconstruction was coming to a close and the proprietary institutions were numerically on the rise.[2]

This resurgence in medical school expansion did not include the new advances in teaching methods or the incorporation of a science-research based curriculum characteristic of the German system that dominated progressive medical education in the mid-late nineteenth century. Important features representative of the German medical school included a university affiliation (preferably in a population center) and full-time faculties free to teach and pursue research. In addition, they prioritized modern preclinical labs for empirical teaching methods and control of a teaching hospital with adequate numbers of teaching beds (and patients) with an outpatient clinic for the clinical exposure for both students and house staff. Only carefully selected pre-med students with science backgrounds gained admission to these schools, and generous financial support funded these institutions from mainly state and university sources. The great scientific discoveries in the recognition and treatment of disease in the late nineteenth century, a by-product of the European-German medical school's research programs, and confirmed by Americans studying abroad in Europe, laid bare the many obvious shortcomings of the American medical schools.[3]

With the exception of the scattered quality medical schools in the northeast, the institutions in the United States were relatively primitive, most of which prioritized profit-making over quality, commitment, or innovation. Very few of these schools held private endowments, state financial support, organic university affiliations, or hospital and research facilities that

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[2] James G. Burrow, *AMA: Voice of American Medicine* (Baltimore: The Johns Hopkins Press, 1963), 1-17.

[3] Kenneth M. Ludmerer, *Learning to Heal: The Development of American Medical Education* (New York: Basic Books, Inc., 1985), 30-36.

approached the European-German model. Taking note of the suboptimal caliber of American medical schools, in 1876 the AMA renewed their efforts for systemic reform of these institutions in concert with the newly-organized American Medical College Association (AMCA), later to be resurrected as the Association of American Medical Colleges (AAMC) in 1892. Complementing these reform advocates were the proliferating state boards of health and medical examiners, the licensing agencies that implemented significant policing power in the last two decades of the nineteenth century. The opening of The Johns Hopkins Medical School in 1893 with its tight university affiliation, its own in-house teaching hospital, a generous endowment, and a progressive administration and faculty, provided the template that served as a model for its counterparts to emulate in the new century.[4]

The goal of medical education reform gathered momentum in 1904 with the formation of the AMA's Council on Medical Education (CME) which conducted the first of its influential inspection surveys of American medical schools in 1906. Composed of a group of respected medical school deans, the CME examined and rated 166 North American institutions in 1906-1907 according to their suitability to teach modern, scientifically-based medicine with their evaluation shared only with the participating school. The surveyed medical schools received ratings from the CME: "A" for acceptable, "B" for needing certain improvements but redeemable, and "C" for requiring complete organization.[5] On the heels of this survey, which found a narrow majority operating at an acceptable level (eighty-two rated "A," forty-six rated

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[4] James J. Smith and Lucy S. Shaker, *Looking Back, Looking Ahead: A History of American Medical Education* (Chicago: Adams Press, 2003), 116-117;

William G. Rothstein, *American Medical Schools and the Practice of Medicine: A History* (New York: Oxford University Press, 1987), 95, 96, 98.

[5] Kenneth M. Ludmerer, 241.

"B," and thirty-two rated "C"), fifty medical schools added the pre-med requirements of a year of college biology, physics, chemistry, and a foreign language for matriculating students in addition to completing a four year high school degree.[6]

The Carnegie Foundation, at the request of the CME, sponsored a similar inspection tour in 1909-1910. This more detailed survey would become known as the Flexner Report, named after its chief inspector and author Abraham Flexner, an educator and non-physician. When his findings were released publicly, they triggered a significant ripple throughout the medical establishment and the public at large, becoming the catalyst for medical education reform across North America. The report called for consequential measures with the distinct possibility of elimination of those schools unable or unwilling to redress the deficiencies cited in the report as the Carnegie Foundation's survey "sounded the death knell" for many of the poor quality institutions.[7]

In his summation Flexner proposed the termination of almost 80 percent of the country's medical schools with only thirty-one quality and strategically located institutions remaining and apportioning only five of these to the eleven southern states.[8] These recommendations, although challenged initially by several institutions, placed a large number of southern schools on notice that they would require a significant effort to raise their standards to comply with the requirements and reforms identified by both the CME and the Carnegie Foundation. The most

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[6] E. Richard Brown, *Rockefeller Medicine Men: Medicine and Capitalism in America* (Berkeley: University of California Press, 1979), 140.

[7] Thomas P. Duffy, "The Flexner Report–100 Years Later," *Yale Journal of Biology and Medicine* 84 (2011): 272.

[8] Abraham Flexner, *Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching*, Bulletin No. Four (New York: The Carnegie Foundation, 1910), 152-153. Originally published by the Carnegie Foundation in 1910; Reprint edition 1972 in *Medicine and Society in America* (New York: Arno Press, Inc., 1972), 152-153.

difficult benchmarks for these cash-poor, vulnerable southern institutions to acquire called for an adequate endowment, a teaching hospital under the medical school's control, at least six full-time professors in the preclinical sciences, and additional full-time clinical professors conducting active research. After 1914 all proprietary institutions carried a "C" rating and were denied recognition in thirty-one states. The following year the National Board of Medical Examiners, to determine licensure, limited their testing to only students from "A"-rated institutions. The doors were quickly closing on the nation's substandard medical schools.[9]

Abraham Flexner has often been identified as the individual most responsible for facilitating the reforms in the nation's medical school's education programs. There is little doubt that the 1910 public release of the Carnegie Foundation's inspection survey shocked a nation that had little prior knowledge of the degraded state of its medical institutions. The graphic language and no-holds-bar approach by Flexner, a native son of Kentucky with two brothers graduating from their hometown's medical school of the University of Louisville, seemed excessive to his critics. He received his share of criticism, lawsuits (for libel), and even a death threat because of his denigrating comments in the Carnegie Foundation's *Bulletin Number Four* when assessing the merits and qualities of substandard southern medical schools.[10]

His solution, however, to limit the South to only five complete (4-year) and three preclinical (2-year) institutions appeared more punitive than helpful. This amounted for only one-sixth of Flexner's assigned thirty-one complete medical schools to be available to care for a quarter of the nation's population of ninety-two million citizens. Flexner arrived at this

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[9] Ludmerer, 241.

[10] Rothstein, 144-148; *Abraham Flexner: An Autobiography: A Revision Brought Up To Date.* Originally published in 1940 under the title *I Remember* (New York: Simon and Schuster, 1960), 87.

resolution by applying the German demographic model of one physician for every two thousand persons in the population compared to one physician for every 568 persons in the American population suggesting an oversupply of physicians in the United States,[11] although he didn't emphasize that the ratio increased to one doctor per one thousand in the thickly populated German cities. He also did not account for the actual disparities of the two countries' geographical and societal differences or the resources available in their health care delivery systems including the quality of physicians.

Medical historians have been generous in their praise of Flexner in identifying the problematic features of the lowly esteemed southern proprietary medical schools. Flexner rarely offered material assistance in their plight to reform and survive even when he had the opportunity when hired as Secretary of Rockefeller's philanthropic General Education Board (GEB) in 1913. In this capacity he was ideally placed to allocate grants for these cash-strapped second and third tier institutions at a time when the better of these medical schools were transitioning to become valid departments of state or municipal universities. In select cases Flexner was helpful in identifying areas requiring improvement and occasionally would make useful suggestions as to how this could be accomplished but the main resources needed to address education reform were cash infusions to upgrade faculties, infrastructure, and endowments. Flexner did not, however support funding these fledgling programs with GEB grant money but rather to allocate these resources for "the highest-type medical school." These cash-poor Southern schools needed to be satisfied "with doing the best that the situation permitted."[12]

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[11] Brown, 147.

[12] Thomas Neville Bonner, *Iconoclast: Abraham Flexner and a Life in Learning* (Baltimore: The Johns Hopkins University Press, 2002), 160-161.

The exception to Flexner's intentions was Vanderbilt University's suboptimally funded medical school in Nashville, Tennessee, whose chancellor and acting dean of the medical school, James H. Kirkland, impressed Flexner and his GEB colleagues as a southern progressive worthy of assistance. He was a firm advocate of the medical school's responsibility in teaching scientific medicine but also aware of a medical institution's social role in delivering quality health care to a community. This field has been developed by the French (Villermé) and German (Virchow) since the mid-nineteenth century with their research in the social, economic, and occupational etiologies of disease.[13] Flexner and the GEB saw this as an opportunity to make this institution the "modern ideal" in the South and given the proper resources could also serve as a "pathfinder" institution for the region's medical schools to use as a template for their institutions.[14] This was especially useful for those shedding their proprietary culture in becoming an organic department of a university. Coincidentally Nashville was also home to Meharry Medical College, the only surviving Black medical school in the South, and the GEB had maintained a policy of ensuring the institution's financial viability and professional standing. Flexner and the Board saw the advantage of having their regional model institution located crosstown that could be of value to Meharry when they might be in need of assistance. The GEB approved Flexner's grant request for Vanderbilt that received its initial funding of $4 million in 1920 (delayed due to the Great War) for the medical school's reconstruction.[15]

Towards the end of his tenure with the GEB in 1928, Flexner's policy regarding the second tier medical schools changed somewhat, as the Board approved token grants for some of the

[13] Brown, 127.
[14] Ludmerer, 193-194.
[15] Brown, 165-166.

university-affiliated institutions including the Universities of Georgia, Arkansas, Louisville, and the Medical College of Virginia. These concessions began with Flexner's change in policy in the early 1920s in his support of the state-supported University of Iowa's request for a GEB grant for its medical school's education program, representing a departure from the Board dealing only with privately endowed institutions.[16] Despite this developing trend Flexner appeared most proud of the millions distributed to the upscale, prestigious medical schools: "in less than ten years—between 1919 and 1928—operating with something less than fifty million dollars, the General Education Board had, directly and indirectly, added a half a billion dollars or more to the resources and endowments of American medical education." He conceded that the "times were propitious. . . and money was plentiful in the 1920s," but took credit for the "sound and farsighted technique of matching funds" despite not extending the same open handedness to the South's insecure medical schools operating on a shoestring.[17]

Although a few of the southern proprietary medical schools, especially those exceptionally poor quality or failing financially, were almost grateful that Flexner's visit hastened the demise of their institutions. They were relieved to be able to close their doors as the schools were "at the end of their tether; at that point it was easy to strangle them."[18] A few of these subpar institutions, however, made the argument that even though they were second-rate schools, in many instances they provided the sole medical care for rural southern communities. Flexner's use of German physician demographics applied to the American experience suggested a surplus of doctors concentrated in the urban areas unable to compete for patients and eventually would

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[16] Flexner, *An Autobiography*, 186-190.

[17] Flexner, *An Autobiography*, 209.

[18] Paul Starr, *The Social Transformation of Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry* (New York: Basic Books, 1982), 120; Ludmerer, 243.

gravitate to the undersupplied rural towns in what he referred to as "spontaneous dispersion." This proved to be a major miscalculation by Flexner.[19]

Typical of the "B-C" rated medical school was the Chattanooga Medical College that Flexner belittled because of their "claim to exist for the sake of the poor boy and the back country."[20] A graduate of this school lamented that they were no Harvard or University of Pennsylvania but "prepared worthy, ambitious men who have striven hard with small opportunities and risen above the surroundings to become family doctors to the farmers of the South and to the smaller towns and mining districts." He finished by noting that graduates of the superior schools could not be enticed to settle in these communities but made the case that these rural folk should not be denied physicians.[21]

Flexner later realized his misreading the situation in rural America as he became aware of the developing gap in medical delivery between small rural towns and the larger cities and suburbs. He was informed by a 1920 biostatistical study revealing the regional distribution of physicians in the United States was closely determined by the per capita income of its citizens. He came to realize that the doctors "do business where business is good and avoid places where it is bad."[22]

This trend actually began in the post-bellum era as the wealthier states of the north gained physicians trained in the poorer southern states. A study of this phenomena revealed in the 1870 South Carolina there was a doctor for every 894 citizens while Massachusetts had one doctor for every 712 persons. The year of the Flexner Report, however, the ratio in South Carolina rose to

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[19] Ludmerer, 249; Staff, 125.
[20] Flexner, *Medical Education in the United States and Canada*, 303.
[21] Starr, 125.
[22] Ibid.

1:1,170 and in Massachusetts decreased to 1:497, and these disparities were felt mainly in the flight of physicians from the rural South.[23]

The "vanishing country doctor" was confirmed by an AMA study in 1925 revealing that out of 910 small towns, over 300 had lost their doctors in the previous decade, although some were replaced by "irregular practitioners" during this period.[24] Because of these problematic statistics Flexner managed a similar study confirming the attrition of physicians from rural towns to large cities between 1906 and 1923 that increased from 20 to 70 percent during that time frame.[25] Census data collected between 1900 and 1930 revealed a progressive drop in physicians nationally from 173 per 100,000 population to 125 per 100,000 citizens despite the AMA's mantra that there was actually a surplus of doctors, and these worrying statistics reflected underemployed and poorly distributed physicians.[26]

Fortunately allopathic physicians were not competing with the sectarian practitioners who had gained popularity in the mid-late 19th century, as they were denied statutory approval to practice medicine or surgery, admit to hospitals or prescribe drugs in the new century. The non-M.D. group as a whole including osteopaths, chiropractors, Christian Scientists, midwives, and chiropodists cared for only 5.1 percent of all attended cases of illness in a study of nine thousand families between 1928 and 1931.[27]

Abraham Flexner impacted medical education reform in the South when he exposed the region's substandard institutions to public scrutiny in the 1910 Carnegie Foundation survey. In

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[23] Staff, 125.

[24] William Allen Pusey, "The Disappearance of Doctors from Small Towns," *Journal of the American Medical Association* 88 (February 12, 1927), 505-506.

[25] Lewis Mayers and Leonard V. Harrison, "The Distribution of Physicians in the United States," (New York: General Education Board, 1924), 47-48.

[26] Starr, 126.

[27] Starr, 127.

his subsequent role as a key officer with the philanthropic GEB, he was responsible for funding grants for hand-picked medical schools. Medical historians have noted that when Flexner published his findings and recommended the closure of all but 31 medical schools in the United States instead of amending their deficiencies, he felt this policy would attract fewer but better prepared students for admission and ultimately reduce the number of surplus physicians. Actually the elimination of poor-quality medical schools had already begun in the previous five years, and some historians felt that the Flexner Report accelerated the process and "succeeded brilliantly in expediting the death of the proprietary schools."[28] There were others, however, who noted the increasing costs of running a medical school business is "what killed so many medical schools in the years after 1906."[29] The Flexner Report "aided a process already underway. The rate of consolidation and elimination of medical schools was as rapid before the report as after."[30]

Several of the deans of the larger second and even third tier southern medical schools did not agree with Flexner's analysis of their institutions' shortcomings, and his suggestion to eliminate the schools instead of adopting corrective measures for their survival. These schools' deans and administrators understood and agreed with many of Flexner's observations, assessment, and the need to revamp their institution's educational system along the criteria set by the CME and the AAMC. They did not agree that their communities, state, and region were suffering under a surplus of underemployed doctors.

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[28] Ludmerer, 181.
[29] Starr, 118.
[30] Brown, 154.

Medical historians have been aware that Flexner's views may have been influenced by the AMA's contention that the practice of medicine had become an overcrowded field and needed trimming. His use of German demographics of physician:population ratios had little relevance when comparing to the rural communities of the American South and that his assistant was N.P. Colwell, Secretary of the CME, was somewhat troubling. The deans of several of the medical schools surveyed complained of the cursory nature of Flexner's visits, not allowing an unbiased adequate inspection of their facilities.[31]

With these lingering doubts about Flexner's evaluation and conclusions, and facing the reality that their institutions had been slated for elimination, the southern medical schools' deans and administrators, began to consider survival strategies. Working with state legislatures and community leaders, they adopted a policy of education reform and survival of their local medical institutions.[32] The southern states did share some common obstacles, especially their poverty, stunted economies, Jim Crow statutes and delayed systems of secondary and higher education. Medical school historians have explored the resurrection of single or statewide medical schools in the South, but the reform and survival of the southern medical schools as a region during the age of reform to World War II identified a fresh area of investigation of medical education in the American South.

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[31] Martin Kaufman, American Medical Education: The Formative Years, 1765-1910 (Westport, Conn.: Greenwood Press, 1976), 169-172.

[32] Ludmerer, 245.

CHAPTER I: A BRIEF HISTORY OF MEDICAL EDUCATION IN THE UNITED STATES AND THE EARLY REFORM MOVEMENT

Colonial North America inherited the British system of medical education and traditions that dated to the late Middle Ages and early Renaissance periods that underwent significant modifications in the environment of the New World. The study of medicine in England began as a two-tiered system whose upper tier was comprised of the privileged, classically educated gentlemen who attended the colleges of Oxford and Cambridge Universities and occupied the apex of the system and he was identified as a physician. He received an extended education, initially in the arts and followed by several years of study in the medical sciences which required him to be fluent in Latin, the language of the texts, and he was recognized as the practitioner.

The second tier, apothecaries and surgeons, subordinate to the main practitioner, were less arduously trained, and limited to their supportive roles. A third group, lurking in the shadows with no medical expertise, but having strong opinions and offering medical advice, were the medical quacks and ministers of the gospel. Belonging to a professional guild that ensured a monopoly, the physician was the health provider for the wealthy, which included the clerical, military and political leadership, and in the process, would become rich himself. The apothecaries' function was to supply the prescribed medications, and the surgeon performed the "handwork," which required a minimum of training, all of which was monitored by the physician.[1]

[1] Lester S. King., "The British Background for American Medicine," *Journal of the American Medical Association* 248 (1982): 217-218.

Seeing the need to regulate the physicians' practices and responsibilities, King Henry VIII established the Royal College of Physicians in 1523 to observe and adjudicate "turf wars" among the healthcare providers, especially those between physicians and apothecaries. The latter eventually founded its own separate guild in 1617, carefully defining their duties and responsibilities in their ability to prepare and furnish the proper drugs, but not to be otherwise involved in either the treatment or diagnosis of the patient, which remained in the domain of the physician. The education and training of physicians in England until the early eighteenth century was, by law, limited to only Oxford and Cambridge Universities, but following the union with their northern neighbor in 1707, Scotland was allowed to educate and graduate physicians. With the establishment of medical schools and teaching hospitals in Scotland, by the turn of the eighteenth century, Scottish institutions granted 1,598 medical degrees while the Oxbridge universities graduated only 246 physicians. During the next half century, while the population of Great Britain doubled, Oxford and Cambridge medical school graduates increased by only 10 percent, in contrast to Scotland's output of physicians that nearly tripled.[2]

Entrepreneurs in London, with its great hospitals such as St. Thomas, Guys, and St. Bartholomew, dating back hundreds of years, were unable to establish medical schools but did have the opportunity to create private medical "dissecting" academies beginning in the mid-1700s. These proprietary institutions taught the preclinical sciences to apothecaries who sought an alternate pathway to become qualified to function in the role as physician and acquired technical knowledge in a concentrated form. Subjects taught at these "halfway houses, intermediate between an apprenticeship and formal instruction at a university medical school,"

[2] King, "The British Background for American Medicine," 219.

offered coursework in the medical sciences of anatomy, physiology, medical theory, chemistry, and materia medica (pharmacy). By taking these specialized courses, spending six months of clinical "attendance" at a public hospital in the infirmary or dispensary, and completing their apothecary apprenticeship and licensing exam, the apothecaries were recognized to practice medicine under parliamentary law in 1815. The establishment of public higher education with the establishment of a medical school at the University of London in the 1830s removed the need for the private dissecting academies of the eighteenth century, as medical education in Great Britain became the domain of the public universities and hospitals.[3]

The need for competent medical practitioners became evident as the North American colonies experienced a population growth tied to its westward geographic expansion that marked the eighteenth century. Cyclical periods of malnutrition, epidemic diseases, and a persistent state of warfare with Native Americans exacerbated the health risks of the early colonists at a time when healthcare givers including physicians, surgeons, apothecaries, and midwives were in short supply. Suboptimally-trained apprentices proved inadequate to the demands of this public health challenge. In time, an increasing trickle of European-trained physicians from mainly British institutions, augmented by the increased numbers from the Scottish medical schools, emigrated to the larger seaboard communities in the new world, and, for a fee, became masters to apprentices. The latter served as assistants while "reading medicine and gaining clinical experience placing them slightly above clergymen who practiced a variant of spiritual unscientific medicine, able to offer only compassion to parishioners."[4]

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[3] King, 219-20.

[4] James J. Smith and Lucy S. Shaker, *Looking Back, Looking Ahead: A History of American Medical Education* (Chicago: Adams Press, 2003), 100-101.

Greater numbers of trained physicians, improved diets, and expanding public health initiatives improved the lot of the colonists, and with the growing number of scientific advances in the practice of medicine, colonial America was poised to adopt the British model of medical education. In 1751 a teaching hospital, established in Philadelphia, became the nidus and clinical component of the Medical College of Philadelphia founded in 1765, the colonies' first medical school. The merging of the medical school with the University of Pennsylvania in 1792 served as a template for other urban colleges to establish medical departments. In New York, King's College became the Columbia Medical College in 1769, and in Boston, Harvard Medical College was founded in 1783, followed in the new century when New Haven became home to Yale Medical College (1813).[5] Still, at the start of the Revolutionary War, there was an estimated thirty-five hundred practicing physicians in the colonies where only one in nine were actual medical school graduates.[6]

By the end of the War of 1812, the United States boasted an additional seven medical colleges, but only the Yale Medical School constituted a genuine department of a university while the others were either chartered by medical societies or by proprietary practitioners. In the aftermath of the war, the number of medical schools expanded rapidly with twenty-six new institutions and an additional forty-seven chartered between 1840 and the Civil War. Despite the attrition caused by the war, in the centennial year 1876, there were sixty-four medical institutions in operation. During these sixty years even the better entrenched schools relaxed their standards to compete with the substandard proprietary institutions for students, as tuition fees were critical to maintain financial viability. The rapid proliferation of these entrepreneurial medical schools

[5] Smith and Shaker, 103.
[6] Smith and Shaker, 110.

releasing inadequately-trained physicians on an unsuspecting public triggered the "age of heroic medicine," which began in the late eighteenth century and lasted well-past the mid-nineteenth century.[7]

Heroic medicine consisted of therapeutic interventions, unsupported by the existing scientific data. These "treatments" included bloodletting to the point of convulsions or unconsciousness, the application of toxic plasters for pulmonary symptoms, "leeching" for poorly thriving infants, castor oil-jalap-calomel cocktails for gastrointestinal disturbances, and sulfur, magnesium and opium-containing compounds for general anesthesia. The threat of "bleed, blister, plaster, cup, and purge" comprised accepted treatments for conditions ranging from fevers to constipation. The lack of therapeutic triumphs paralleled the loss of public confidence in these "orthodox" physicians, and the increasingly skeptical patients became attracted to the unorthodox but less lethal medical sects, which included naturopaths, hydropaths, and the Thomsonians of the early nineteenth century. These medical sects' interventions were non-scientifically arrived at but noted for doing less harm than the heroic measures practiced by the "regular" physicians. The sects' conservative interventions and fewer fatalities developed a wide appeal among the public despite their being denied state licensing to practice their craft.[8]

Adding to these varied approaches to healthcare, by the mid-century Dr. Wooster Beach, an orthodox physician and a graduate of the New York College of Physicians and Surgeons, eschewed the heroic school in favor of "botanic medicine" and founded the Eclectic Medical

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[7] Martin Kaufman, *American Medical Education: The Formative Years, 1765-1910* (Westport, Conn.: Greenwood Press, 1976), 36-40.

[8] Kaufman, 57-64.

Institute in Cincinnati to train "scientific reformed" doctors.[9] During this period another sect discipline, homeopathy, imported from Germany by its founder Samuel Christian Hahnemann, took shape. He was both a physician and experimental pharmacologist who also denounced the prevailing heroic therapies in favor of low dose medications combined with supportive care. Although designed to achieve cures, these sectarians were satisfied with the amelioration of symptoms among their patients while "doing no harm," the initial tenet of the Hippocratic Oath. Hahnemann eventually established a homeopathic medical school in Philadelphia as his sect became the largest and most influential of all the alternative splinter medical groups in nineteenth century America.[10]

With no real science-based curriculum to cling to, American medical education's reputation, especially among the proprietary non-elite institutions, suffered significantly compared to those of western Europe and the better American medical school in the northeast and midwest. In contrast, the European schools' independent research laboratories advanced the "bacteriological age" of discoveries and treatments of the mid to late nineteenth century. These advances, both in the laboratory and in the clinical sciences spurred by such luminaries as Louis Pasteur, Robert Koch, Ignaz Semmelweis, and Theodur Billroth, helped to launch the medical education reform movement in the United States in the late nineteenth century.[11] Concerned with the proliferation and popularity of what were considered dubious medical sects and the proprietary "diploma mills," the state medical societies spearheaded these reform efforts. Their leadership comprised the better educated element from the quality medical schools and, not

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[9] Lester S. King, *American Medicine Comes of Age: 1840-1920* (Chicago: American Medical Association, 1984), 10.

[10] King, *American Medicine Comes of Age*, 10-11.

[11] Martin Kaufman, "American Medical Education" in *The Education of American Physicians*. Ed. Ronald L. Numbers (Berkeley: University of California Press, 1980): 7-26.

infrequently, these physicians had been exposed to additional training in Europe. They were painfully aware of the loss of public confidence in the country's physicians to deal effectively with community and public health issues, such as the numerous epidemics plaguing the growing urban populations and the ineffective therapeutic public health interventions that did little to stem the epidemics and the rising mortality rates. Practicing physicians experienced a loss of face and status with their life-threatening interventions, as noted in Jacob Bigelow's 1835 paper, "On Self-Limited Diseases," which was highly critical of mainstream physicians' adoption of heroic medicine techniques.[12]

One of the earliest organized efforts at medical education reform occurred when the Vermont State Medical Society in 1825 proposed an increase in course requirements for medical degrees and licensure and established control of the physician education process. The "Vermont Plan" spread to neighboring New England medical societies, which resulted in the Northhampton (Massachusetts) Convention in June 1827. This convention recommended changes for medical school preparation to include a knowledge of Latin, geometry, and natural philosophy. In addition to proposals revamping the course curriculum and apprenticeship programs, the Convention also endorsed a minimum age of twenty-one to enter medical schools. These changes, put into practice in 1829, coincided with the formation of the Association of Medical Societies and Institutions that formed to meet regularly to further reform efforts among the region's schools. Membership required the participating medical schools to maintain quality standards of education and competence in order to qualify their students for both their degree and

[12] Jacob Bigelow, *On Self-Limited Diseases* (Boston: Nathan Hale, 1835), 1-48; Richard Shryock, *Medicine and Society in America* (Ithaca: Cornell University Press, 1960), 131-132.

state licensure, but these initiatives were soon to encounter the headwinds of reaction.[13] Despite being denied their state license to practice their craft, unorthodox practitioners in the deregulation climate of the Jacksonian Era benefitted by the abandonment of most states' licensing laws (with the exception of New Jersey and Louisiana) and the less deadly medical sects thrived together with their newly-created medical schools.[14]

The Convention's standards became watered-down or eliminated piecemeal by member schools to the point that only Yale's medical school adhered to the program. When decreases in enrollment threatened the proprietary school's faculty income, education reform suffered, and by the mid-1830s state medical licensing laws were either in decline or repealed nationwide. The Medical College of Georgia, founded in 1828, a leader in the southern medical school reform movement, encountered significant pushback to where they abandoned their progressive policies. Attempts by Ohio physician William M. Awl and his fellow state committee members to raise pre-med requirements while strengthening and lengthening the medical school's curricula met with apathy and division from county medical societies at their 1838 state convention. New Hampshire and New York state societies opted for similar initiatives at their state's conventions in 1839 and 1840 respectively but their mainstream members were dismissive of these efforts. There were comparable responses among the western medical schools reacting to Transylvania (Kentucky) University medical department's attempt to organize higher standards for the region's institutions.[15]

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[13] Kaufman, 78-81.
[14] Kaufman, 68.
[15] Kaufman, 82-87.

Martyn Paine, a faculty member at the New York University Medical School, thwarted his state's medical society's reform program and provided a class conscious rationalization. In his "Defense of the Medical Profession of the United States," he was critical that the reform proposals contained an aristocratic feature "favoring the wealthy and oppressing the poor." He argued that only the rich could invest in the lengthier preparation and medical programs that were inherent in the European system, which prioritized adequate premedical education to master the laboratory and clinical components contained in their demanding medical school curricula.[16]

A "national medical convention" attended by 119 reform-minded delegates from 16 states met in New York City in May 1846 to adopt uniform standards and requirements for the nation's medical schools. Specific reforms discussed included the selection of qualified students, the strength of curricula, and the adequacy of faculties. This proposal, controversial because of its emphasis on regulations during an era partial to the free enterprise oriented profession, became the basis for the development of the American Medical Association (AMA) the following year. This game-changing convention, however, attended by representatives from only one-third of the medical colleges, was without any representation from ten states. A seven-member committee on medical education, formed to work on "uniform and elevated standards" and develop questionnaires for medical schools, agreed to meet the following year in Philadelphia at the National Medical Convention.[17]

At the 1847 convention, data from the questionnaires revealed a wide variance of educational practices and confirmed the abundance of poorly-trained doctors that not only

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[16] Martyn Paine, *A Defense of the Medical Profession of the United States*, 8th ed. (New York, 1846), 8-9.
[17] James G. Burrow, *AMA: Voice of American Medicine* (Baltimore: The Johns Hopkins Press, 1963), 1-2.

created a public health menace but also accounted for a loss of respect and confidence in the community. Committee recommendations endorsed uniform preliminary education among students, with at least seven professors per faculty to teach the seven disciplines of medicine: theory and practice of medicine, principles and practice of surgery, general and special anatomy, physiology and pathology, materia medica-therapeutics-pharmacy, diseases of women and children, and chemistry-medical jurisprudence. The addition of anatomical dissection, clinical instruction, and a hospital practice rotation completed one's medical education. After finishing this program, the committee could award degrees that would also serve as a medical license for practitioners.[18]

This program placed a greater responsibility on the state legislatures to grant medical college charters to only those schools that adhered to the committee's recommendations. Most states had previously repealed their agency of licensing physicians during the laissez-faire *milieu* of nonintervention. The granting of licensing power to medical schools conferring a diploma was a "step up" from those physicians who came into the profession trained only by an apprenticeship. A minority of committee members opted for medical license examinations administered by a board composed of academicians and practicing physicians, but this proposal failed in committee, and state licensing laws prevailed with this compromise. This meeting established the AMA with the goal of it becoming the quality-control organization responsible for the standards and character of the profession, including the education of its medical students

[20] Kaufman, 101-102.

and the competency and conduct of its practitioners. According to the AMA's first president, it was "reform and not revolution that is contemplated."[19]

Despite efforts of county medical societies and their delegates at the national AMA conventions to raise the standards of their local medical schools, only a few older-established institutions were receptive to these reform initiatives. Most medical colleges, especially the rapidly growing number of proprietary schools expanding in the West and South, resisted these calls for reform as they maintained their aversion to regulation and any conceived interference with their profitable business model. The medical education committee of the AMA quickly realized there was a limit to what it could accomplish when the elite Harvard Medical School took issue with the suggested requirements of student anatomical dissections and increasing classroom lectures to six months instead of its existing four-month program. Harvard physicians argued in the latter instance that didactic lectures were a suboptimal method of teaching. They were also aware that when the University of Pennsylvania increased its lecture regimen to six months, it lost several of its students to its cross-town competitor, the Jefferson Medical College. The committee's recommendation of requiring six months of clinical hospital instruction before graduation, templating on the French system, likewise had few takers. What became apparent to the academicians was that the AMA's attempt to reverse the decline of medical education in the United States by even modest reform was failing.[20]

Like the University of Pennsylvania's experience, institutions that initiated the proposed adjustments risked losing applicants and revenue as the mainline institutions sobered to the

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[19] Kenneth M. Ludmerer, *Learning To Heal: The Development of American Medical Education* (New York: Basic Book, Inc., Publishers, 1985), 20.

[20] Kaufman, 101-102.

reality of ignoring the reforms or going out of business. Daniel Brainard, the president of Rush Medical College in Chicago, lamented these economic realities, stating that "educational standards must be sacrificed in a free-for-all struggle to attract students."[21] The editor of the *American Medical Gazette* observed in an 1855 piece that after a seven year trial to prescribe minimal alterations to reshape medical education, the AMA effected only "signal and utter failure" to implement reform or to raise prestige of the profession.[22] Despite this stinging rebuke, even more stringent changes by a five-man committee chosen by delegates at the Louisville Convention in 1859 were proposed. These included augmenting premedical education and increasing the medical study curriculum to three years. Introduced at AMA conventions in the South (Louisville, 1859) and the North (New Haven, 1860), these robust reforms foundered as a divided nation devolved into mortal conflict.[23]

A bloody Civil War with its tremendous loss of life brought into national focus the need for better educated physicians, who could have mitigated the war's toll of an estimated seven hundred thousand deaths. Half to almost three-fourths of these fatalities might have survived through timely interventions by doctors familiar with public health issues of proper sanitation and diet in the treatment of the pneumonias, typhoid fever, malaria, measles, small pox, dysenteries, and wound infections that commonly afflicted large armies.[24] These numbers were in stark contrast to the lower levels of morbidity and mortality in the European wars of the same era, reflecting poorly on American medical training. Attempts by the AMA to renew its pressure

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[21] Kaufman, 127.
[22] Morris Fishbein, *History of the American Medical Association* (Philadelphia: W.B. Saunders, 1947), 65.
[23] Kaufman, 102-107.
[24] James J. Smith, M.D., Ph.D., and Lucy S. Shaker, Ph.D., 114; Ludmerer, 10-11.

for medical education reform in the immediate postwar years temporarily lost its prewar momentum due to the political chaos of Reconstruction and public apathy.

The early postwar stirrings to readdress the issue of improving the country's medical schools, delivered by the AMA's President William O. Baldwin at the New Orleans convention in 1869, noted dimly that there was no hope for "uniform and elevated standards of requirements. . . except through federal legislation," which was not considered a priority amidst the postwar upheaval.[25] This despair was echoed by Stanford Chaillé, a champion of reform and professor of anatomy and physiology at the University of Louisiana (later to become the Tulane Medical School), who advocated state laws establishing medical examining boards. Even in a state periodically ravaged by smallpox and yellow fever epidemics, Chaillé's entreaties met rejection as he bemoaned, "What can any good citizen hope from medical Africanized Louisiana when well-governed northern states failed to reform their medical schools…what can the misgoverned southern states hope to accomplish?"[26] This plea reflects the frustration of a respected medical academician during a post bellum period in New Orleans lamenting that fact that if necessary reforms in the education and license to practice medicine could not be achieved in the educated and civilized northern states, what chance did chaotic reconstruction Louisiana have in reforming the quality of its institutions and graduates to practice their trade. A proliferation of proprietary, low-standard schools, combined with a growing acceptance of sectarian institutions, further stymied the efforts of the reform-minded educators and physicians in the postwar era.

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[25] Kaufman, 111.

[26] Kaufman, 114; Stanford E. Chaillé, "The Medical Colleges, the Medical Profession, and the Public," *New Orleans Medical and Surgical Journal*, n.s. 1 (May 1874): 825-829.

The AMA's reform efforts received an unexpected assist from the muckraking journalists at the *New York Daily Tribune* in 1875 when they published an editorial from the *Philadelphia Medical Times* highly critical of the "joint stock company" medical schools. These institutions were enrolling and graduating marginally-prepared student applicants by watering down an already suboptimal curriculum. Robert M. King, a noted faculty member of the St. Louis College of Physicians and Surgeons, sounded out the alarm that these newly-minted doctors were "ground out annually to the slaughter of the innocents."[27] With the addition of these "diploma mills," by 1880 there were ninety medical institutions in the United States, very few of which measured up to the European (German) standard. The popular *Philadelphia Record* aroused public indignation when it exposed one such mill's practices in the city that resulted in a fraud conviction of its president. Lax state laws required only a diploma from a chartered medical institution for practice purposes, and some were purchased by individuals who never attended "required" classes. In Illinois an estimated 10 percent of practitioners between 1877 and 1879 received their diplomas by this method.[28]

There were notable exceptions of schools that embraced the higher standards recommended by the AMA's committee. The Chicago Medical College, established by the professors at the failed Lind Medical College in 1859, required incoming students to be college graduates or be able to pass an entrance examination that confirmed their preparedness. In addition to expanding its faculty, the school also developed a curriculum superior to its crosstown rival Rush Medical College. The school would later be affiliated with Northwestern University. The shining star of the early reform movement was Harvard Medical College, as the University's new President,

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[27] Kaufman, 119.
[28] Kaufman, 123-124.

Charles Eliot, was able to achieve a reform agenda in 1871 despite initial board opposition. With the support of board overseer Charles Francis Adams, despite the initial opposition by medical faculty member Oliver Wendell Holmes, Sr., Eliot installed a three-year program of nine-month terms with a graded curriculum and written examinations. Predictably, enrollment suffered, but Harvard's generous endowment kept the school financially afloat. The Universities of Pennsylvania, Michigan, Chicago, and Syracuse followed suit over the next decade.[29]

The main impetus of the early reform movement, however, would come not from the professional societies or the halls of academe but from the police powers provided by state legislatures with the restoration of state medical licensing laws. This regulatory trend was a feature of a national movement in the post-Civil War era adopted by both professional and trade occupations that granted them protection and status. The medical profession represented both regular (allopathic) and sectarian physicians, both of whom benefitted from laws eliminating untrained practitioners. This collaboration, abetted by the growth of therapeutic science and endorsed by some sects, narrowed their differences with mainline doctors. Many sectarian general practitioners gained admitting privileges at big city hospitals where they made referrals to orthodox (regular) specialists, allowing the former to continue their practice unabated.[30]

These minimal early statutes that required only diplomas or proof of practice for licensure morphed into more stringent standards when the Illinois legislature in 1877 allowed the State Board of Medical Examiners to accept diplomas from only approved institutions, which removed by three thousand the number of practitioners in the state over the next decade. The quality of

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[29] Fred B. Rogers, "William Pepper, 1843-1898*," Journal of Medical Education*, 34 (September 1959): 885-889; Kaufman, 127-130.

[30] E. Richard Brown, *Rockefeller Medicine Men: Medicine and Capitalism in America* (Berkeley: University of California Press, 1979), 63-67, 74-80.

medical schools, largely determined by the passage rates of the State Board of Health-administered licensing examination given to recent medical school graduates also became the accepted standard for practice licensure. Several states adopted the Illinois model, and by the turn of the century, over half of the states required passage of a medical licensing exam for recent graduates of medical schools. Some states empowered their boards of health to credential practitioners, a "grandfathering" measure supported by mainline Protestant churches to limit the influence of sects in medicine, specifically targeted at the Christian Scientists.[31]

Despite a groundswell of support for strong licensing laws among the public and professionals alike, resistance stiffened among the "quick degree" proprietary schools. The era's Social Darwinists, who opposed regulations in general, conceded that although the lower classes were most subject to injury by medical quackery, it was the "penalty nature attached to ignorance."[32] Challenges to the legality of medical practice laws were rejected by the United States Supreme Court in the 1888 decision of *Dent v. West Virginia,* when it ruled the public had the right to be protected on the assurance of a license provided by a board of professionals. Declaring that "character is as important a qualification as knowledge," the court in *Hawker v. New York* (1898) further strengthened licensing laws that had been approved at the state level.[33] This subjective yardstick was allowed for discrimination against Black and immigrant medical school graduates who were beginning to have an impact as health care providers by the turn of the century.

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[31] James G. Burrow, *AMA: Voice of American Medicine* (Baltimore: The Johns Hopkins Press, 1963), 4, 101.

[32] Brown, 21-22.

[33] Paul Starr, *The Social Transformation of Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry* (New York: Basic Books, Inc., 1982), 102-106.

The early educational reform movement, assisted by "an ephemeral association of medical colleges," acted to raise the standards of medical schools nationwide following the semi-effective work of the AMA.[34] That group was commonly accused of acting from economic motives to limit the supply of doctors, which left room for other groups to advocate for reforms. Created in 1876 as the Association of American Medical Colleges (AAMC), this new organization endorsed collective action to establish minimum but uniform standards for the country's seventy medical colleges, of which only a handful were valid departments of universities. Meeting in Philadelphia and composed of twenty-two non-sectarian institutions, a schism developed almost immediately among the delegates because of the extent of reforms proposed by the "radical" faction represented by the more elite institutions. Without concrete recommendations, the participants agreed to meet in Chicago the following year, renaming themselves the American Medical Colleges Association (AMCA).[35]

This meeting in Chicago, attended by fifteen of the original members, added eleven new entrants. At the meeting, the elite faction pushed for a three-year graded curriculum in addition to entrance exams for prospective students that emphasized the physical sciences and an adequate command of English. These tougher standards, tabled at the 1878 meeting in Buffalo, resurfaced the following year at the national meeting in Atlanta. Again the representatives failed to reach a consensus which precipitated defections from such quality founding members, including Dartmouth College, Jefferson Medical College, New York College of Physicians and Surgeons, Bellevue Hospital Medical College, and the University of Vermont.[36] By 1883 the

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[34] Mark D. Bowles and Virginia P. Dawson, *With One Voice: The Association of American Medical Colleges, 1876-2002* (Washington, D.C.: Association of American Medical Colleges, 2003), 20.

[35] Bowles and Dawson, 23-27.

[36] Bowles and Dawson, 27-29.

AMCA "had declined into dormancy" and subsequently disbanded.[37] The inability of the Association to enforce substantive reforms resulted in its passing "watered-down" versions to accommodate the smaller institutions in the South and West who were unable to obtain quality applicants or could not afford to upgrade their curricula, faculty, or facilities. The AMCA, joined by only a distinct minority of medical schools, limited its ability to function as a national watchdog-reform agency.

Despite the AMCA's failures, reform initiatives continued by state licensing boards throughout the 1880s, spearheaded by the Illinois State Board of Health, which mandated written exams for potential practitioners with diplomas from approved medical schools. By the last decade of the nineteenth century, ten elite medical schools including Harvard, Yale, Pennsylvania, Columbia, and Northwestern embraced the graded three-year curriculum. These institutions, with their growing endowments, were able to fund their nonproprietary models in ways not dependent totally on student tuitions as they vied "for academic respectability rather than for large enrollments."[38] The AMCA also reorganized in 1890, renamed itself the Association of American Medical Colleges (AAMC), and hosted a national meeting in Nashville attended by sixty-six medical colleges. Although only slightly more than a third of the schools became early AAMC members, the agency comprised many of the progressive institutions which, by then, had initiated the three-year curriculum with mandatory coursework in histology, "biologic" chemistry, and pathology. By 1893, 96 percent of members incorporated these

[37] Lynn E. Miller and Richard M. Weiss, "Medical Education Reform Efforts and Failures of U.S. Medical Schools, 1870-1930," *Journal of the History of Medicine and Allied Sciences,* Vol. 63, No. 3 (July 2008): 353.
[38] Ludmerer, 84.

guidelines, which met the 1891 standards of the National Confederation of State Medical Examining and Licensing Boards.[39]

The reconstituted AAMC met in Detroit in 1892, requiring its members only to adhere to the minimum requirements to grow their membership which included admission exams approved by state licensing boards. This policy of tolerating a slower pace of reform and acquiescing to the second-tier medical schools precipitated the withdrawal of highly-rated schools from the organization. The AAMC freely admitted that while the minimum standards were not ideal in the long run, they were practical for the average medical school and student who could maintain a slower pace to survive in the immediate future. This argument would later allow members of the Association of Southern Medical Colleges, known for their low standards, to join the AAMC.[40] In a relatively short timeframe, the organization reclaimed its turf as a national watchdog agency and a major representative for medical schools.

On the heels of the reformation of the AAMC, Johns Hopkins University opened its medical school in 1893 and quickly became the template for progressive educational reforms. It not only initiated the four-year teaching program but also required a college degree for its incoming students. Modeled after the German system, it conceived medical education as a function of basic and clinical science requiring its own hospital situated on its medical campus, and a faculty recognized for both their research and teaching ability. The Hopkins' curriculum's first two years comprised the laboratory sciences, and the remaining two allowed for the development of clinical acumen from a "hands-on" approach. These student clinical "externs" were carefully monitored by attentive faculty and house officers in their own hospital. By 1896

[39] Starr, 115.
[40] Bowles and Dawson, 31.

this program had been adopted by the University of Pennsylvania, Harvard, Michigan, and Chicago Medical Schools.[41] Another progressive feature adopted by Hopkins, in response to a half-million dollar endowment by women donors, was a liberal policy of accepting female applicants.[42]

Supported by adequate funding at the outset, Johns Hopkins Medical School became a proponent of a full-time faculty, initially in the preclinical sciences and eventually to include the clinical staff, especially those engaged in ongoing research. As the better schools endorsed the Hopkins' paradigm, the AAMC and state licensing agencies became aware that these institutions were turning out a superior product. Only 1.5 percent of their graduates failed the state's licensing exams while a quarter of aspiring practitioners from lesser institutions were unable to pass this critical hurdle.[43] These publicized outcomes spurred medical school administrators to admit better qualified students and to embrace the graded four-year curriculum by the turn of the century, prioritizing both the laboratory sciences and hospital-based clinical instruction. The fusion of scientific research to clinical practice had now crossed the Atlantic Ocean to become integrated into the ideal American model.[44]

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[41] Martin Kaufman, "American Medical Education," in *The Education of American Physicians*, ed. Ronald L. Numbers (Berkeley: University of California Press, 1980), 7-26.

[42] Starr, 117.

[43] Kaufman, 19.

[44] Starr, 116.

CHAPTER II: ACCELERATED REFORM MOVEMENT

"I presume nobody will question the existence of a widely spread popular delusion that every doctor is a man of science. . . To a sufficiently ignorant man, every captain of a trading schooner is a Galileo, every organ grinder a Beethoven. . . As a matter of fact, the rank and file of doctors are no more scientific than their tailors; or, if you prefer to put it the reverse way, their tailors are no George Bernard Shaw." — George Bernard Shaw, Introduction to "The Doctor's Dilemma" (1913)

It is difficult to identify when the pace of medical education reform quickened, but in the post-Reconstruction United States two specific events spearheaded the movement. Dating to the early nineteenth century, several state medical licensing boards exempted medical degree holders from having to take the standard licensing exams in order to practice. This trend was adopted by a significant number of state legislatures and paralleled the growth in the number of medical schools from four in 1800 to greater than fifty by the Civil War.[1] This increase in medical schools was basically comprised of the substandard, proprietary institution that provided "the fastest, easiest and cheapest education"–the Jacksonian-era *zeitgeist* rejected both elitism and "occupational protectionism," a term identified with the establishment forces of the newly-formed AMA in 1847.[2] The repeal of those licensing examinations was especially helpful to

[1] Richard H. Shryock, *Medical Licensing in America, 1650-1965* (Baltimore: Johns Hopkins University Press, 1967), 25-28.

[2] Martin Kaufman, *American Medical Education: The Formative Years, 1765-1910* (Westpoint, Conn.: Greenwood Press, 1976), 42, 68.

non-allopathic practitioners, including various medical sects such as the homeopaths and eclectic "physicians."[3]

Well after the Civil War, when it became apparent that the quality of practicing physicians in the United States was well below that of its European counterparts, the Illinois State Board of Health, through the legislature, reasserted the written examination to determine eligibility for practice of those candidates from "approved" medical schools, a standard determined by a school's examination results, matriculation process, and training standards. In fact, the "approved list" helped expose the disreputable schools, most importantly the "diploma mills," and numerous states came to rely on the Illinois board's data to determine those eligible to take exams and or practice medicine.[4] State health boards continued their activist role in the medical education reform movement. In addition to their support of licensure exams, they advocated for post-graduate internships and more demanding admission standards for medical schools.[5] John Rauch, who assumed the main leadership role of the Illinois State Board of Health, was recognized for developing the Board's policing authority in determining which medical school programs were acceptable in providing an adequate education for its students. He was also credited for closing "a score or more" of the diploma mills.[6]

Almost every state, by the first decade of the twentieth century, required a written examination for medical school graduates before gaining licensure to practice. State medical boards added to their policing powers by mandating admission requirements for medical students

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[3] Shryock, 31-32.

[4] Lynn E. Miller and Richard M. Weiss, "Medical Education Reform Efforts and Failures of U.S. Medical Schools, 1870-1930," *Journal of the History of Medicine and Allied Sciences,* Vol. 63, No. 3 (July 2008): 356-357.

[5] Miller and Weiss, 357.

[6] Victor C. Vaughan, *A Doctor's Memories,* quoted in Miller and Weiss, 357.

to have at least three years of high school that was to be followed by a four-year medical training program. Hospital internships later became a prerequisite by the Pennsylvania board in 1909 to practice although over half of state's medical school graduates by 1904 were voluntarily completing an internship year. By 1932 this valuable additional year of training was generally adopted by all medical schools in the United States.[7] Licensing reciprocity among the states became an issue, as regulations differed among the participant states, which led to the establishment of board associations: the National Confederation of State Medical and Licensing Boards in 1891, the American Confederation of Reciprocating Examining and Licensing Boards in 1902, and the Federation of State Medical Boards of the United States, a combination of the earlier two confederations, created in 1912.[8]

As important and influential as the state boards became, medical education reform in 1893 received a major stimulus with the establishment of Johns Hopkins Medical School in Baltimore, providing America with a template for progressive institutions to consider adopting. The medical school was a by-product of what its first President, Daniel Coit Gilman, envisioned what a new American university ought to be: an institution of learning and research modeled on the German universities of the late nineteenth century. These institutions represented a departure from the American concept of colleges as glorified secondary schools and the appended vocational faculties (in law, medicine, engineering) competed with the colleges for immature students. With honorable exceptions, the professors in these institutions showed no interest in original studies, and basic science and scholarship were simply borrowed from European sources. There were no

[7] Willard C. Rappleye, *Final Report of the Commission on Medical Education* (New York: Office of the Director of Study, 1932), 142.

[8] Shryock, *Medical Licensing in America, 1650-1965*, 54-55.

true research centers and very few research careers in American higher education, and especially in medicine.[9]

Although dissatisfied students and physicians advocated for such institutions in the United States, these pleas were ignored by the educational establishment until the last quarter of the nineteenth century when the utilitarian function of the medical sciences made an impact on the educated public. Especially enlightening was the discovery and treatment of the infectious diseases that came to light in the European medical school laboratories. These contributions were observed by President Gilman, and with the generous endowment provided by Mr. Johns Hopkins, a medical school and namesake hospital were also provided, following the opening of the university in 1876. President Gilman worked with his chief adviser for medical affairs, Dr. John Shaw Billings, from 1878 to 1893 to bring a novel concept in medical education to fruition in the United States. Early faculty hires for the medical school included William H. Welch, as Dean and pathologist (1884) and William Osler as Physician-in-Chief (1888). They were able to cobble together the most impressive group of faculty-researchers in America to inaugurate the teaching program at the medical school. To confirm that the medical school was a graduate department of the University, a bachelor's degree was required for entering medical school freshmen, and exposure to the preclinical sciences were taught by undergraduate school professors as "premed" requirements.[10]

The goal of Billings was to innovate a unified plan of education at the new institution that was independent of local traditions or personnel. The body of faculty appointments prioritized

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[9] Richard H. Shryock, "The Influence of Johns Hopkins University on American Medical Education," *Journal of Medical Education*, Vol. 31, No. 4 (1956): 226-227.

[10] Shryock, *Journal of Medical Education*, 229.

their research interest in addition to their clinical acumen, and even today their statues dot the medical school and hospital campus, including those of Dean William H. Welch (pathology), Franklin P. Mall (anatomy), William S. Halstead (surgery), and Howard A. Kelly (gynecology). The hospital, built on the German "pavilion plan" with laboratories attached to the wards, became operative in 1889, enabling the professors to refine their labs for the first students' arrival in 1893. To prioritize original research, the preclinical chairs were made full-time in order to teach and conduct research and not have to engage in caring for private patients although the change led to a dip in the professors' income. These reorganization strategies "revolutionized within a single decade the status of anatomy, physiology, and pathology in America. . . providing a new basis for medical and surgical development," as noted by the Rockefeller's General Education Board in 1915. As a result, the United States achieved a center of medical research recognized internationally.[11]

The faculty of Hopkins' medical school began assembling in Baltimore in the late 1880s when construction of the laboratories and hospital were almost completed prior to beginning classes in 1893. As the faculty were actively involved in research, a vehicle for their current work, *The Bulletin of the Johns Hopkins Hospital*, appeared in 1889 to publish their data. This publication was followed by the founding of the *Journal of Experimental Medicine* in 1896. Dean and head of pathology William H. Welch was instrumental as one of the founders of this pioneer periodical focused only on research. In 1909, the head of pharmacology, John Jacob Abel, played a significant role in the founding of the *Journal of Pharmacology*, which became a leading research publication in its field. Initially the output of publications reflected research in

[13] Shryock, *Journal of Medical Education*, 231-232.

the preclinical sciences, noting that even Halstead's contributions to his innovations in surgery were based on his physiological research approach, which played to an international audience because of its clinical application in the operating room.[12]

Additional innovations credited to the Hopkins' system included post-internship advanced training programs in the specialties introduced by Osler and Halstead and acceptance as a "graduate program within the hospital." These residents also monitored the work of clinical clerks (fourth-year students) and interns and were themselves reviewed by the chief resident and attending professors. It was rumored that the ward patients occupying the teaching beds received better technical care than most private patients, as the former was "observed by a whole hierarchy of the German type." Such an entourage of caregivers offered little privacy and could be exhausting to a sick patient. Another bold step introduced by the Hopkins' system was the full-time clinical teaching positions both Mall and Welch observed when they were exposed to this innovation in Germany. There was pushback from the clinical faculty because it would entail the loss of private patients and fees, a significant financial sacrifice for these practitioners.[13]

Endorsed by Abraham Flexner, who was now secretary of the General Education Board (GEB) of the Rockefeller Foundation, a grant of $1.5 million was offered to Dean Welch in 1913 to set up such a program. Despite opposition to this concept by Osler (then in England) and Kelly, the Hopkins clinical faculty approved the program and the GEB's fund was accepted with only limited faculty attrition, most notably Barker (Professor of Medicine). The remaining clinicians were pleased to devote more time for teaching and research. Fees obtained for

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[12] John L Cameron, "William Stewart Halsted: Our Surgical Heritage," *Annals of Surgery* 225, no. 5 (1997): 445-458.

[13] Shryock, *Journal of Medical Education*, 231-232.

consultations by full-time professors were credited to the university. The full-time clinical faculty system, with later modifications, e.g. "geographic full-time," became the paradigm for the progressive and better endowed medical schools over the next quarter century, permitting clinical professors to care for a few selected private, "paying" patients.[14]

In addition to William Welch's duties as dean of the medical school and carrying out his research, he also found the time to be involved with the social and political issues impacting the medical world. His vigorous opposition to the antivivisectionist movement at the turn of the century and his support of the National Tuberculosis Association (1904) and the National Committee for Mental Hygiene (1909) were remarkable for a busy medical school dean. Also, due to his efforts, the autonomous School of Public Hygiene was established at Johns Hopkins in 1916.[15] Being a lifetime bachelor most likely freed him to pursue these extracurricular activities.

The success of the Johns Hopkins system impacted medical education nationwide, establishing, perhaps, its greatest contribution as reforming American's medical institutions, especially those in the South. Several southern schools replaced their retiring senior faculty with Hopkins' physicians talented in research and teaching, who were either educated, trained, or occupied junior faculty positions at Johns Hopkins Medical School. In the immediate aftermath of the Flexner Report, "over 60 American colleges or universities had appointed more professors holding Hopkins degrees." Although the senior Rockefeller's University of Chicago benefitted early with the acquisition of such men, the newly-adapted "pathfinder institutions" in the South including Vanderbilt, Emory, and Duke University's medical schools filled their faculties with Hopkins' men from the early 1920s to the onset of World War II. Since Hopkins initiated

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[14] Shryock, *Journal of Medical Education*, 231-232.
[15] Shryock, *Journal of Medical Education*, 233.

specialty training with their residency program, many of these specialists were able to remain in academic medicine and secure professorships. Hopkins men from this program were hired as full professors between 1897 and 1910 and over the next decade 112 residency graduates attained professorships.[16]

The Quality of Medical Schools and the Reform Coalition

The AMA, realizing that the federal government did not want to become involved in the regulation of occupations in a free enterprise economy, changed tactics by implementing a broad reorganization, placing itself at the apex of a hierarchical network of state and county medical societies. At the turn of the century the AMA experienced a significant increase in membership which enabled it to become a political player at the state level while maintaining its primacy as the national organization that represents physicians. With the AMA's concern about the country's overproduction of doctors and its influential and widely distributed *Journal*, it began publishing data comparing the various medical schools' graduates' state licensing examination performances. The intention was to make the public aware that graduates who failed the exam reflected their subpar education from a substandard medical school.[17]

Medical education reform received an additional boost from the AMA in the early years of the new century by sponsoring inspection surveys of the nation's medical schools conducted by their newly created Council of Medical Education (CME). This was an effort to eliminate both the poor quality school and its graduates by denying the latter to practice in an already crowded field. These schools were evaluated during periodic visits beginning in 1906 by the CME, a committee established in 1904 by the AMA and composed of respected medical school

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[16] Shryock, *Journal of Medical Education*, 231, 234.

[17] Kaufman, *American Medical Education 1765-1910*, 155-161.

educators. Their initial "inspection tour" in 1906-1907 resulted in several substandard medical schools closing or merging, reducing the number of institutions by 15 percent. The Carnegie Foundation for the Advancement of Teaching, the sponsor of the 1910 Flexner Report, was to have a much greater impact. This report was conducted at the behest and with "covert collaboration" with the AMA.[18] As the AMA's CME opened these inspection tours and investigations, it gradually assumed the role of an accrediting agency responsible for a medical school's ranking, and ultimately for its survival as a functioning institution. The criteria applied by the AMA's CME and the Carnegie Foundation's Abraham Flexner in determining a school's acceptability was pioneered by Johns Hopkins.

After the CME determined the quality of the institution, the latter received a ranking based on criteria developed by Johns Hopkins Medical School. The benchmarks included: (1) entrance requirements of student candidates; (2) student class attendance records; (3) the number and quality of the faculty staff; (4) resources available for maintenance and faculty, and teaching hospital budget; (5) quality of laboratory and classroom facilities; (6) quality of clinical teaching facilities to include both in-patient teaching beds and an outpatient dispensary; and (7) teaching aids, which included libraries, museums, and amphitheaters. The information obtained from these surveys, including the school's rankings were to be kept confidential and shared only with the medical school's administration. The Flexner Report was under no constraints, re: public release of its findings, nor did they develop a ranking system similar to that of the CME of the inspected institutions. As the AMA's CME opened these investigations, the agency became

[18] William G. Rothstein, *American Medical Schools and the Practice of Medicine: A History* (New York: Oxford University Press, 1987) 144; James G. Burrow, *Organized Medicine in the Progressive Era: The Move Toward Monopoly* (Baltimore: Johns Hopkins Press, 1977) 42.

partially responsible for a medical school's ranking and ultimately for its survival as a functioning institution.[19]

The Flexner Report basically supported the CME's findings from their latest survey in 1909 that there were still significant "B" and "C"-rated medical schools in operation, although many of these were in the process of closing shop or merging with other institutions in similar straits to reform and survive. Adding to the woes of these substandard schools was a policy pushed by the CME that matriculants of "A"-rated schools would be required to have at least one year of college premedical education by 1914, to be increased to two years by 1918.[20] Although this policy provided the "nail in the coffin" for many failing medical schools, it was criticized by the director of the Carnegie Foundation, Henry Pritchett. He interpreted this policy as another effort of the AMA to further reduce the number of medical schools in the United States. In this case, the targets that were especially vulnerable were the economically disadvantaged students attending southern and black institutions. As a result of this action, medical schools did experience a transient decrease in their average enrollments, from 122 to 78 students by 1920, but the numbers returned to their previous levels by 1930.[21]

The AMA also drew criticism from the AAMC for the CME's approval of an overcrowded and standardized curriculum that impacted medical licensing examinations in several states, making these exams unnecessarily difficult. Again, this was designed to reduce the supply of practicing doctors for what the AMA considered to be a limited demand. These continuing

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[19] Rothstein, 143-144.

[20] Lynn E. Miller and Richard M. Weiss, "Medical Education Reform Efforts and Failures of U.S. Medical Schools, 1870-1930," *Journal of the History of Medicine and Allied Sciences*, 63, 3 (July 2008): 360.

[21] Starr, *The Social Transformation of Medicine: The Sovereign Profession and the Making of a Vast Industry* (New York: Basic Books, Publishers, 1982), 121; William G. Rothstein, *American Medical Schools and the Practice of Medicine: A History* (New York: Oxford University Press, Inc., 1987): 142-144.

policies of the AMA, which sought to closely reduce the number of physicians for economic motives, got the attention of the Federation of State Licensing Board (FSLB), the powerful agency that organized the separate state licensing boards in 1912 into a single federal board. The FSLB developed policies in concert with the AMA and AAMC, and the group became known as "the reform coalition."[22]

The FSLB previously recognized the AMA and AAMC as the dual authorities to accredit medical schools, but the agencies were increasingly at odds over the issue of limiting the number of doctors, promoted by the AMA, for financial reasons. The FSLB ultimately backed the AAMC in the mid-1920s, which became the chief agency to accredit medical schools. The federation conceded "that inferior schools no longer needed to be immediately eliminated without the opportunity to improve and that the CME's rigid standards for (all) medical schools was undesirable." The AAMC's approach of helping vulnerable medical schools instead of purging them outright was a more reasonable solution, especially in dealing with the in-limbo "B"-rated schools. By 1930 the AAMC was given total agency control over medical degree programs and requirements.[23]

Prior to the Flexner Report, medical school mergers and disbandings were already in motion as the economic realities of running a medical school were taking its toll on the institutions' proprietary owners. They were trying to maintain and "keep up" by updating their facilities, raising faculty salaries, keeping their library, museum and teaching aids current, but insufficient funds plagued these institutions. Student fees, representing the sole source of income

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[22] Kenneth M. Ludmerer, *Learning to Heal: The Development of American Medical Education* (New York: Basic Books, Inc., 1985), 245.

[23] Rothstein, 149.

for most for-profit schools, were not enough due to dwindling enrollments and greater expenditures. The number of medical schools, already declining at the time the Flexner Report, from 155 from the CME inspection tour in 1906 to less than 130 in 1910, the Carnegie Foundation's release of its *Bulletin Number Four* "merely aided a process already underway."[24] The rate of consolidation and/or elimination of medical schools was as rapid before the report as after. In any event, several medical historians credit Flexner with "succeeding brilliantly in expediting the death of proprietary schools,"[25] which supports Donald Fleming's contention that Flexner "did to death more bad schools than any other man in the history of the world."[26]

The separation of the AMA from the accreditation process engineered by the FSLB in the mid-twenties exposed sharp differences in philosophy between the CME Chairman Arthur Dean Bevan, the Carnegie Foundation, and the FSLB. Dr. Bevan pushed aggressively for higher entrance requirements, especially among the suboptimal southern medical schools following the release of the Flexner Report. Influential elements in the Carnegie Foundation (such as Henry Pritchett) and the FSLB felt, however, that the implementation of tougher standards should be delayed until the systemic deficiencies among the South's secondary and higher educational systems had been properly addressed. Abraham Flexner, who accepted the powerful position of Secretary of the General Education Board (GEB) of the Rockefeller Foundation in 1913, re-entered the fray. In a turnabout he advised a more lenient approach towards the southern medical schools, which was a distant cry from his Report that wanted to limit the region to only seven select institutions. He became increasingly aware of the South's educational limitations after

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[24] E. Richard Brown, *Rockefeller Medicine Men: Medicine and Capitalism in America* (Berkeley: University of California Press, 1979), 154.

[25] Burrow, 43.

[26] Donald Fleming, *William Welch and the Rise of Modern Medicine* (Boston: Little Brown and Co., 1954), 174.

being enlightened following discussions with Dean Morgan Smith of the University of Arkansas.[27]

In a harsh letter to Dr. Bevan, Flexner criticized the AMA President for "the folly and unwisdom of your policy and complete ignorance of the situation," and urged a change in policy or risk an "organized revolt" of the region's medical schools.[28] A likewise belligerent reply from Bevan accused the educator of "meddlesome interference,"[29]but fortunately the cooler head of Henry S. Pritchett, President of the Carnegie Foundation for the Advancement of Teaching (CFAE) prevailed. He suggested a compromise proposal of allowing the southern schools additional time to comply with the more exacting admission standards agreed upon by the reform coalition to receive the class "A" rating necessary for accreditation.[30]

The irony was inescapable that Flexner, in his new role with the GEB, had developed a more forbearing attitude towards the very schools he condemned to extinction a few years earlier in his report, signaling a greater understanding on his part of the socioeconomic realities of the deprived South. This change in perspective, allowed renewed efforts by medical school administrators, state legislatures, medical and civic community leaders, and philanthropic organizations to mobilize for the survival of their vulnerable but necessary medical institutions. Despite the reformists' mantra of "fewer and better doctors," there were fewer but better medical schools graduating equal numbers but better educated doctors by 1930, when the number of medical schools in the United States was trimmed from 148 in 1910 to 76 by 1930. With the

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[27] Ludmerer, 246.
[28] Quoted in Ludmerer, 246.
[29] Ibid.
[30] Ludmerer, 246-247.

release of the Flexner Report in 1910, the number of medical school graduates had already decreased from 5,747 in 1904 to 4,440, and over the next decade declined to 3,047 as the number of medical schools fell to 85. By 1930, however, 76 medical colleges claimed 4,565 graduates while the ratio of physicians to population remained slightly less, decreasing from 154 per 100,000 in 1910 to 121 per 100,000 in 1930.[31] This drop had, at best, only a minimal impact on the delivery of healthcare, as the proliferation of telephones, automobiles, and better roads assisted the physician by increasing his geographical range.

A remarkable synergism developed between the AMA's CME and the AAMC that established its Council on Medical Education and Hospitals in 1920. The former operated in the court of public opinion, while the latter, represented by the deans of the better medical schools, monitored the quality of education and enforcement of the enhanced standards on its member schools. In the critical decade of 1910 to 1920 when the AAMC and the AMA shared the responsibility of accrediting medical schools, the AAMC displayed patience, which enabled several B-rated "conditional" members an opportunity to advance to "A" status with full membership and accreditation by implementing the required standards in a gradual fashion. These requirements included better student selection, increased faculty numbers and quality, and facility upgrades.[32] After successfully implementing these basic objectives, by the mid-1930s these borderline vulnerable schools were called upon to effect the controversial reform of hiring full-time preclinical and clinical faculty, the latter with the ability to teach, see patients, and conduct research. Without an abundance of material resources compared with the generously

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[31] Ludmerer, 247; Council on Medical Education and Hospitals, "Medical Education in the United States," *Journal of the American Medical Association* 95 (1930): 504, Table 5.

[32] Mark D. Bowles and Virginia D. Dawson, *With One Voice: The Association of American Medical Colleges, 1876-2002*, (Washington, D.C.: Association of American Medical Colleges, 2003): 40-42.

endowed elite institutions, the marginal, less affluent medical schools needed to scramble to comply with the directives of the accreditation agencies.[33] Fortunately these imperatives occurred at a time that philanthropic agencies and the federal government began to take an active role in sustaining institutions that were critical for the health and welfare of working-class Americans.

The role that philanthropy played in subsidizing southern medical education was rare in the nineteenth century, usually delivered in small amounts to church-related institutions, or to schools such as Meharry, establishing a black institution that provided physicians for the large community of recently freed slaves in the South. By the second decade of the twentieth century, the other six black medical schools in the South did not survive the Flexner Report.[34] The $7 million gift that the Baltimore merchant Johns Hopkins left upon his death in 1873 for the construction of a hospital and university was truly remarkable for its time and represented the largest single endowment in the history of medical school philanthropy in the United States up to that time.[35] Until then only piecemeal contributions to either medical schools or their teaching hospitals were recorded in the last quarter of the nineteenth century.

It was not until John D. Rockefeller Sr. and his son John D. Jr. developed the Rockefeller Institute for Medical Research in New York (1901) followed by the creation of the General Education Board (GEB) also in New York (1902). This organization became the major philanthropic agency for funding projects supporting medical school education reform in the

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[33] Rothstein, 149.

[34] Earl H. Harley, "The Forgotten History of the Defunct Black Medical Schools in the 19th and 20th Centuries and the Impact of the Flexner Report," *Journal of the National Medical Association*, 98, no. 9 (September 2006): 1425-1429.

[35] Shryock, *Journal of Medical Education*, 228.

United States for the first half of the twentieth century. The GEB's Board of Trustees was chaired by Frederick T. Gates, the worldly Baptist minister who was Rockefeller Sr.'s good friend and chief advisor in both philanthropic and business matters. He worked in close coordination with Rockefeller, Jr. during the decade 1907-1917 with the goal of promoting "a comprehensive system of education in the United States."[36] The GEB was particularly drawn to projects supporting education in the impoverished South and made a concerted effort to promote all levels of black education, an area of great neglect among the region's educational agencies.[37]

The timing of the board's organization, however, was fortuitous for embracing the hot button issue of medical education reform. With Rockefeller's contribution the previous year to medical research with the founding of its medical research institute in New York, advisor Frederick Gates became the major player for Rockefeller's medical philanthropy in the support of medical school education reform. When the Carnegie Foundation played a cameo role as the new straw man for the AMA's CME in conducting the 1909 inspection survey of American medical schools, it heightened the expectations of Henry S. Pritchett, president of the Carnegie Foundation for the Advancement of Teaching (CFAT) that his foundation would become more involved. He held out hope that the Foundation would want to fund reorganization programs of poorly performing but salvageable medical schools.[38]

After being privy to a draft of the Flexner Report, however, the practical Scotsman Andrew Carnegie refused to become involved in rescuing medical schools that allowed themselves to devolve to such a deplorable state. He was only too happy to continue financing his foundation's

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[36] Raymond Fosdick, *Adventures in Giving: The Story of the General Education Board, a Foundation Established by John D. Rockefeller* (New York: Harper and Rowe, 1962), 6-8.

[37] Fosdick, 9.

[38] Ludmerer, 170-171.

efforts in regional education projects, and, of course, to enable most communities of any size to enjoy access to a local library.[39] With no intention of contributing his millions to buttress the country's medical schools, his foundation did fund a fellowship-type travel grant for Flexner in 1910-1911 to study the European system of medical schools, which took him to England, Scotland, France, Germany and Austria. The release of his European survey in the foundation's *Bulletin Number Six* in 1912 also caused a stir in the world of medical education, and occasioned a lunch invitation from Frederic K. Gates, the board chair of the GEB.[40]

At this meeting, Gates, who obviously respected Flexner's expertise in the field of medical education, asked the educator a famously blunt question: "What would you do if you had a million dollars with which to make a start in reorganizing medical education in the United States?" Flexner quickly replied that this infusion of cash would be well spent in further developing the Johns Hopkins Medical School as "the brightest hope in American medicine."[41] Hopkins was important not only for providing a template for other institutions to follow but also for disseminating Hopkins'-trained students, house officers, and junior faculty staff throughout the country, bringing to faculties valuable teachers, researchers, and clinicians. The influence of Johns Hopkins spread rapidly "to Harvard, Yale and Rochester in the Northeast; to Minnesota, Wisconsin and Washington University in the Middle West; to Duke, Vanderbilt and Virginia in the South; and to California and Stanford on the West Coast." Dr. Halstead placed eleven of his seventeen surgical residents as eventual full professors at important medical schools, and

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[39] Ludmerer, 180-181.

[40] Fosdick, 153-154.

[41] Steven C. Wheatley, *The Politics of Philanthropy: Abraham Flexner and Medical Education* (Madison: University of Wisconsin Press, 1988), 60.

William Welch was pleased that at Harvard-run Boston City Hospital, "they have only Hopkins men there, and want no others."[42]

Gates was impressed by Flexner's immediate and thoughtful response, especially since Dr. William Welch was not only a close and influential friend of Gates but also served as the first dean of Hopkins' Medical School. He was also the first president of the board of scientific directors of the Rockefeller Institute of Medical Research when it was created in 1901, and Flexner's brother Simon became the institute's first director. Following their luncheon, Gates requested Flexner to take temporary leave from the Carnegie Foundation to develop a gameplan to approach Welch and his department chiefs at Johns Hopkins about a million-dollar grant from the GEB to be used specifically for salaries of full-time clinical faculty.[43]

Abraham Flexner carried out his role as negotiator-middleman with Dean Welch and department heads Halsted (surgery) and Mall (anatomy), all of whom approved Gates' proposal to accept the GEB's grant to fund full-time clinical faculty positions. It was fully realized that this "is the great reform which needs now to be carried through" in the words of the brilliant anatomist who had been exposed to "the gospel of full-time" while studying in the German University system in the 1880s.[44]

Hopkins had established the full-time approach for preclinical faculty when the medical school opened its doors in 1893, but a full-time salary basis for clinical faculty faced the headwinds of disapproval from the medical school community at large, in addition to a few of the current Hopkins faculty. Three weeks following the meeting with Welch and his associates

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[42] Ludmerer, 75.
[43] Brown, 156.
[44] Brown, 156-160.

and with Gates' approval, Flexner offered a grant of $1.5 million to fund full-time faculty in the major clinical departments of medicine, surgery, obstetrics and pediatrics, and after obtaining approval from the majority of faculty and trustees. Hopkins, after two years, was ready to undertake the experiment. Welch formally applied for the grant offered by the GEB in October 1913 and within 48 hours his request was approved. The installation of full-time faculty became a priority of the GEB in their role of improving the medical education at select institutions.[45]

During these events of 1913, Flexner was hired as Secretary of the GEB, and although he was given credit for "catching the vision of full-time teaching," according to Franklin Mall, Flexner disclaimed this attribution, noting that the concept originated with the German medical institutions. The full-time concept did have its detractors, especially among clinicians and surgeons, including the Mayo brothers, William Osler, and the noted surgeon D.R.W. Crile, who felt that the diagnostic skills in medicine were as much an art as a science and that the clinical experience of practitioners should not be minimized in placing too much emphasis on research.[46]

In any event, the full-time concept was pursued by the better medical schools, and over a six-year period the GEB provided over $8 million to Washington University (St. Louis), Yale, Vanderbilt, and the University of Chicago for the installation of full-time clinical faculty conditioned on these schools' ability to raise matching funds for the project. Vanderbilt University's Chancellor Kirkland was able to receive an initial appropriation of $4 million from the GEB, which eventually grew to $17.5 million because Flexner wanted the Tennessee institution to become "a pathfinder school" for the South. In fact, the GEB had been allocating

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[45] Richard H. Shryock, *The Unique Influence of Johns Hopkins University on American Medicine* (Copenhagen: Ejnar Monksgaard, 1953), 62-63.

[46] Fosdick, 160; Brown, 162.

money for these projects from their general funds, but as medical education became an expensive priority, Rockefeller, Sr., contributed an additional $45 million between 1919 and 1921 to cover the increasing expenditures. These funds were set aside specifically for the maintenance of strategic medical centers, "which would point the way," Kirkland's Vanderbilt was designated for this role in the South.[47]

As the GEB widened its scope of philanthropy, they paused to rethink their commitment to funding the full-time plan, which was extremely costly, and many of the institutions receiving funds identified more urgent needs, including well-equipped and manned laboratories and modernization of their teaching hospitals that were owned outright or affiliated with a university. There was concern that the full-time concept, when introduced too early in the clinical branches, might lead to "unsymmetrical progress" and "may do harm rather than good."[48] There was also a growing awareness among some clinical faculty that the inflexibility of a system that denied clinical faculty the ability to receive fees from private patients seemed unfair and demanded undue sacrifice. This was the situation at Harvard, which reached an impasse when in 1913, the University applied to the GEB for $1.5 million in order to place "all of its clinical department. . . on a satisfactory university basis, devoting the major part of their time to school and hospital work." This allowed receiving fees from private patients, an example of the "geographic full-time policy." This "variation" was supported by Dr. Harvey Cushing, an internationally-recognized brain surgeon, but was rejected by the GEB, which did not alter their position on full-time clinical faculty appointments.[49]

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[47] Fosdick, 161.
[48] Fosdick, 162.
[49] Fosdick, 163.

The rift between the Harvard authorities and the GEB continued into the 1920s, which deprived the Ivy League's medical school of funds from Rockefeller's GEB philanthropy until 1927 when a compromise agreement was reached. This agreement allowed the recipient of full-time faculty grants with "modifications and changes as educational and scientific experience may in the judgment of the Board of Trustees of the University justify." Flexner could now adopt a more liberal policy for grant recipients in deciding an alternate, "related purpose" where the funds should be spent, ruefully observing "other than that for which it was originally designated."[50]

Although the GEB maintained a policy of continuing aid to those schools "already in the lead" to function as a template for less advanced regional schools, it became obvious that these institutions in the South and Midwest required funds to initiate the necessary reforms exposed in the CME surveys and Flexner Report. These institutions, unlike the privately endowed eastern institutions, were state and municipal medical colleges that Flexner recognized had a need for financial support to enable them to implement the very reforms that he and the accrediting agencies prioritized in their surveys.[51]

In 1927 the University of Iowa's medical department petitioned the GEB for financial assistance to move its operations across the Cedar River where it had the opportunity to build a new teaching hospital with the necessary laboratories required for such a facility. The GEB and the Rockefeller Foundation funded the project jointly at a cost of $2,500,000 but encountered the vigorous opposition of Frederick Gates who felt that state universities "were creations of politics,

[50] Fosdick, 165.
[51] Fosdick, 166.

subject to the whims of uneducated legislatures." Gates proposed to only support privately endowed colleges and universities.[52]

Flexner's viewpoint prevailed with the trustees, as he touted both "wholesome competition" between state and private educational systems and argued that "we are trying to aid in the development of a country-wide, high-grade system of education in the United States." Confining the GEB's contributions solely to endowed institutions basically limited their operations to the East, with its abundance of private institutions. A casualty of this episode was the friendship between Gates and Flexner, as Gates never forgave Flexner, soon resigned from the executive committee, and retired shortly thereafter.[53] The policy of gifting to state universities continued, but only in smaller amounts, as the recipients of the universities of Virginia, Georgia, Colorado, and Oregon could attest.[54] The municipally-run University of Cincinnati's medical school also benefitted from the GEB's change in policy and Abraham Flexner's involvement.[55]

The GEB was unable to reach accords in New York City concerning the appropriation of funds for the city's two quality medical institutions, Columbia University's College of Physicians and Surgeons ("P and S") and Cornell's Medical School, both of which were wary of the efficacy and adaptability of the full-time clinical faculty proposal.[56] Frustrated with this situation, Flexner was attracted by the intriguing possibility of developing a medical school on

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[52] Fosdick, 177-178.

[53] Fosdick, 166-167; Brown, 177-183.

[54] Brown, 183.

[55] Ellen Corwin Cangi, "Abraham Flexner's Philanthropy: The Full-Time System in the Department of Surgery at the University of Cincinnati College of Medicine, 1910-1930," *Bulletin of the History of Medicine*, 56 (1982): 160-174; Wheatley, 117.

[56] Rothstein, 165, 169.

the “Flank” (Rochester, New York) as a dual creation of the GEB and George Eastman, the Kodak manufacturer.

This institution would be modeled along the lines of Johns Hopkins, including strict full-time clinical faculty skilled in teaching, research and the practice of medicine. Eastman was a wealthy community-oriented, progressive citizen who had already endowed a dental clinic in Rochester and was surrounded by conservative medical schools in Buffalo, Syracuse and Albany. He was approached by Flexner with a proposal that if he contributed $5 million to the establishment of a medical school at the University of Rochester, the GEB would donate matching funds. Eastman accepted the offer, and Rochester Medical School became a reality in 1920. Although Eastman jokingly referred to Flexner as “the worst highwayman that ever flitted in and out of Rochester,” the medical school, with the continued support of the GEB and Eastman, grew in stature to become a highly valued institution.[57]

Flexner was later able to agree to compromises with Columbia and Cornell medical schools in the mid-1920s, as they adopted watered-down versions of the full-time clinical faculty approach. Both institutions benefitted by the arrangement, as they were able to pry a total of $9 million in funds from the GEB over the next several years. Flexner and the GEB were also instrumental in rescuing a mediocre training program at the University of Chicago Medical School with an infusion of grant funding totaling over $14 million by 1936. The university, a creation of Rockefeller, Sr., in 1892 possessed a medical school whose teaching program was described by Flexner as “neither fish nor flesh nor good red herring,” but over time and with extensive financial support, it became a leading institution in the Midwest.[58]

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[57] Ludmerer, 204-205; Fosdick, 169.
[58] Fosdick, 168.

It is somewhat puzzling why Andrew Carnegie elected to remove himself from contributing more to the cause of medical education reform in the United States, especially since his foundation sponsored Flexner's inspection survey of medical schools in 1909 that catalyzed the movement for future medical education reforms. Flexner was able to cajole the Carnegie Foundation in 1921 to gift the University of Cincinnati's teaching hospital a $200,000 grant to help the cash-strapped school obtain the necessary matching funds required by GEB's granting policy.[59]

Rockefeller Senior's $45 million contribution in 1920 to fund the GEB was only the tip of the iceberg of his funding for medical education. By 1928 appropriations from the oil baron exceeded $61 million, and in 1960 the figure was an estimated $94 million.[60] His foundational appropriations gave rise to medical school philanthropy by other generous citizens, including George Eastman in Rochester, Julius Rosenwald in Chicago, and Edward S. Harkness in New York, which raised the bar in the teaching of medicine from the depths of 1910 to the primary status it has held since the mid-twentieth century. Dr. Milton Winternitz, Dean of Yale's Medical School from 1921-1935, credited these paradigm changes to three factors: Flexner's *Bulletin Number Four*, the standard set by Johns Hopkins, and the GEB's millions, strategically placed.[61]

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[59] Wheatley, 117; Fosdick, 169; Cangi, 166.
[60] Rothstein, 163.
[61] Fosdick, 173; Rosen, 65.

CHAPTER III: A BIOGRAPHICAL SKETCH OF ABRAHAM FLEXNER

Born in Louisville, Kentucky, in 1866 to Jewish parents from Bohemia and the Rhineland, Abraham Flexner was the sixth of nine children. Economic instability played a significant role in his early life as the Panic of 1873 led to the failure of his father's small business. Following his father's death in 1882, his older siblings and seamstress mother provided for the family's welfare, as did Abraham's job after school at the local library. These tough economic currents impressed the youthful Flexner of the value of family unity. Funds provided by his older brother Jacob, who worked as a pharmacist and later became a physician, enabled Abraham to attend Johns Hopkins University in 1884, where he graduated in 1886. As an undergraduate he developed an appreciation of pedagogy and the learning process, subjects that involved his major college research project. Daniel Coit Gilman, the first president of Johns Hopkins, who had modelled the school on the German University system that encouraged combined student and faculty research resulting in publication. The campus became an incubator for a new generation of American scholars, which included a young Woodrow Wilson.[1]

Flexner returned to Louisville following graduation where he spent six years as a secondary school teacher and principal, and then, in 1890, established an experimental-preparatory school like the Chicago school founded by John Dewey. Flexner's school operated without rules, examinations, records or reports but was successful in preparing "indulged and lazy wealthy

[1] Timothy Jacobson, *Making Medical Doctors: Science and Medicine at Vanderbilt Since Flexner* (Tuscaloosa: The University of Alabama Press, 1987): 17-20.

boys for Ivy League colleges."[2] In 1898 he married a former student, Anne Lazier Crawford, following her college graduation at Vassar, and a year later she gave birth to their first daughter, Eleanor. She quickly became a recognized playwright, adapting "Mrs. Wiggs of Cabbage Patch" for the stage early in her theatrical career. Flexner eventually sold his Louisville school and obtained a master's degree in psychology at Harvard University in 1906.[3]

Following the birth of his second and last child, daughter Jean, and with his family in tow, Flexner travelled to Europe where he explored their university systems and wrote his first book, *The American College*, in 1908. Basically, this effort criticized higher education in the United States as an extension of high school, compared to the German university and its emphasis on critical thinking, empiricism, and exposure to research. Although not widely read, the book impressed Henry S. Pritchett, President of the Carnegie Foundation for the Advancement of Teaching (CFAT) and ex-President of the Massachusetts Institute of Technology (M.I.T.), propelling the relatively unknown educator from Kentucky to national prominence.[4]

The CFAT, established and financed by Andrew Carnegie in 1905, wanted to upgrade higher education in the United States, initially by providing a retirement pension plan for teachers in colleges that maintained high academic standards. The foundation was also interested in education issues of the professions, including law and theology and especially medicine. This focus presented an opportunity for AMA President Bevan to approach President Pritchett of the Carnegie Foundation with a request to sponsor and conduct an inspection survey of the North American medical schools that would basically confirm the Council on Medical Education's

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[2] Abraham Flexner, *An Autobiography: A Revision Brought Up To Date*. Originally published in 1940 under the title *I Remember*. (New York: Simon and Schuster, 1960): 44-50.

[3] Flexner, 55-64.

[4] Flexner, 70-71.

(CME) previous investigation re: quality issues that unmasked many of the substandard institutions. Bevan insisted that the survey appear as an independent project "to avoid the usual claims of partiality," with the results appearing in the Carnegie Foundation's *Bulletin* publication. Bevan took pains to confirm that the AMA's CME was not complicit in the venture, although the group assisted materially in "securing the results we were attempting to bring about."[5]

This presentation was deemed necessary by the AMA, since many of its reform initiatives in the past had been criticized for suspect economic motives that advocated a reduction in the number of practicing physicians, a conflict-of-interest issue that Bevan wished to avoid. His hidden agenda was to establish an accreditation pathway for the country's medical schools that would benefit the AMA. The AMA's CME felt that the ranking system introduced in its 1907 survey of medical schools would have greater credibility coming on the heels of an inspection tour conducted by an independent agency, one that would "not offend entrenched interest or antagonize a possible distrustful public."[6]

Pritchett selected Flexner, the intellectual, nonphysician educator whose work he was familiar with , to be the primary investigator of the survey, entrusting him to be "a roaming detective gadfly who could study the debilities of the national system of medical education, and prescribe the process by which they might be resolved."[7] Pritchett explained that the job could only be done by a single individual of such proven ability that his conclusion would be trusted

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[5] Steven C. Wheatley, *The Politics of Philanthropy: Abraham Flexner and Medical Education* (Madison: The University of Wisconsin Press, 1908): 47-48.

[6] Lester King, *American Medicine Comes of Age 1840-1920: Essays to Commemorate the Founding of Journal of the American Medical Association*, (Chicago: AMA, 1984), 93.

[7] M. Saleem Seyal, "Abraham Flexner – His Life and Legacy," Presented at the Flexner Report Centennial Symposium (May 4, 2010). 1-15. Hosted by Jewish Hospital and University of Louisville School of Medicine. History and Archives Collection, Kornhauser Health Sciences Library.

and his recommendations unhesitatingly instituted. Despite the Secretary of the CME, N.P. Colwell, being assigned to assist Flexner's investigations, this intervention did not raise objections from the report's critics when Flexner's report in *Bulletin Number Four* was made public. Colwell's expertise did give Flexner unusual access to medical school records and operations that perhaps other reviewers would not have been able to access. When the Flexner Report was released in late 1910, it was considered an important contribution to the cause of medical education reform. It also launched Abraham Flexner's career, when in 1913 he became Assistant Secretary of Rockefeller's General Education Board (GEB), considered the most important philanthropy dealing with medical institutions in the first half of the twentieth century.[8]

He rose rapidly to the office of Executive Secretary but was disappointed when after being the point man for the most significant interventions by the GEB he was not chosen as Director of Medical Sciences of the Rockefeller Foundation when Pearce stepped down in 1925 and was succeeded by Alan Gregg. That year Flexner accepted a new position with the GEB as Director of Studies and Medical Education, a role change in which he examined the "purpose of the direction and purpose of the American college and university." He returned to his roots as an educator and was no longer allocating rapidly dwindling Rockefeller money, which was targeted to select medical schools for improving their faculties and facilities. Without a clear mandate or financial backing to enact policy and effect change, his observations and philosophical musings on the system of education in the United States found a limited audience. He railed against the American high school and undergraduate college education where students were indifferently

[8] George Rosen, *The Structure of American Medical Practice, 1875-1941* (Philadelphia: University of Pennsylvania Press, 1983) 63-64.

trained, not intellectually challenged, and unprepared for a postgraduate professional school. He contrasted the American system of higher education with that of the French lycée, and the German gymnasium, where secondary education was serious business "to prepare one for professional school or higher (white collar) employment opportunities."[9]

Even though secondary and higher education opportunities became more available and accessible in increasingly larger numbers for Americans by the first quarter of the twentieth century, Flexner was concerned about the "dumbing down" of the college curriculums to the point that they were becoming glorified trade schools. He felt this development disadvantaged the better prepared and motivated students, and he promoted the concept that higher education should be rationed and available for a "leadership elite," which was interpreted by some educators as an undemocratic approach to providing higher education for a wider constituency. Flexner was apprehensive of intellectual mediocrities accommodated by unchallenging curricula and people who were "protected by" unlimited access to a college education. His conception of democracy in education implied the elimination of "all artificial barriers and advantages—wealth as well as poverty, race, color, every possible biological accident and social prejudice." But none should have a mediocre curriculum.[10]

Flexner also took umbrage at the criticism leveled by medical practitioners that he placed too much emphasis on the clinical faculty's research and publishing priorities to the detriment of minimizing the "art of practicing clinical medicine and the overarching importance of the doctor-

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[9] Seyal, 2.

[10] Thomas Neville Bonner, *Iconoclast: Abraham Flexner and a Life in Learning* (Baltimore: The Johns Hopkins University Press, 2002) 194-195.

patient relationship.[11] This issue placed him in direct conflict with the Canadian Sir William Osler, the American exemplar spokesperson who prioritized the art of practicing clinical medicine and "the primary of patient beneficence." He recognized the physician as a healer who monitors the delicate balance of patient care and research to society's benefit. Like a zero-sum game, Osler warned that excellence in science may not be balanced by a comparable excellence in clinical caring. Co-detractor Edmund Pelligrino, a late twentieth century academic bioethicist who feared that research-oriented physicians favored by Flexner "had become neutered physicians with patients in the service of science rather than science in the service of patients," fully supported the Oslerian approach.[12] Flexner emphasized training "enlightened and progressive medical scientists and pruning" the routine school in which family doctors may be ground out wholesale was not intended to be a putdown of the general practitioner but rather a recognition that those doctors were now receiving an education based on the bedrock of scientific enquiry. He felt misunderstood as a blind disciple of Theodore Billroth's "German school" stress on the science component of medical practice but the reality among medical practitioners that a nonphysician was making decisions affecting the methodology of the practice of clinical medicine was of great concern. Disagreements of this nature most likely played a role when Flexner, in 1928, vacated the domain of reforming medical education for a venture that became a unique contribution in the country's higher education inventory.[13]

After a brief sojourn to England where he was selected to give the Rhodes Lectures, he was sounded out by the philanthropic Bamberger family of department store wealth to develop a

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[11] Thomas P. Duffy, "The Flexner Report – 100 Years Later," *Yale Journal of Biology and Medicine* 84 (2011): 273-275.

[12] Duffy, 274-275.

[13] Daniel M. Fox, "Abraham Flexner's Unpublished Report: Foundations and Medical Education, 1909-1928." *Bulletin of the History of Medicine* 54, no. 4 (1980): 480.

medical school for Jewish students in response to the anti-Semitic acceptance quotas practiced by an increasing number of institutions since the early 1910s. The quota policy gathered momentum in the post-World War I years when admission committees were becoming more selective for the fewer number of places available for aspiring doctors since the number of medical institutions was reduced from 155 at the time of the Flexner Report to half that number by 1920. This resulted in a greater scrutiny of medical school candidates and a quota system developed that limited the number of Jewish students for admission. Flexner, however, deflected the Bamberger's concern for their coreligionists and instead suggested that they redirect their philanthropic efforts to a pet project that had captured his interest: creating an environment where gifted scholars "with the stipends provided would allow them to teach, sit, think, write and produce." He argued that ". . . you don't need a medical school for Jews, we need an institute for advanced study where scholars can come and stay and do their productive work."[14] The Bambergers were won over by this proposal and underwrote the startup funding for the Institute for Advanced Studies (IAS) located at Princeton University. In 1929, Flexner agreed to become its first director at age sixty-four, although he suggested that the Bambergers pursue a qualified but younger director to initiate the programs. Bamberger, however, insisted: "The idea is yours. You should train the younger man." After consulting with his wife Anne, she rejoined, "You will have to do it. You have spent your life criticizing other people. You can't refuse to give them a chance to criticize you."[15]

Ironically, the institute provided a respite for many European Jewish scholars who were displaced refugees fleeing their homeland's restrictive anti-Semitic policies. According to

[14] Flexner, 232-235.
[15] Flexner, 234.

Flexner, the institute "was a haven for scientists, mathematicians, physicists, and logicians. . . that may regard the world and its phenomenon as a laboratory without being carried off in the maelstrom of the immediate." Tapping the cream of talent, including Albert Einstein who remained at the "quaint ceremonious place" until his death in 1955, Flexner initially organized the Institute into three departments: the School of Mathematics, the School of Economics and Politics, and the School of Humanistic Studies. With an initial endowment of $5 million from the Bamberger family, the Institute opened in 1930.[16]

Although Flexner had been attacked verbally by those in medical education and the philanthropic community that did not share his opinions or interventions, he did not feel that he was the target of the antisemitism that reemerged in the 1910s decade. His interactions with contemporaries critical of his behavior describe his abrasiveness, verbal aggressiveness, impatience, and formidable intransigence, "but his self-image was one "as a humble servant of power in an age of heroes" with an "unfettered lay mind."[17] Although at times he was accused of being "dogmatic, rigid, and acerbic," he could also be "incredibly charming and ingratiating when he chose to be. "These negative qualities were not uncommonly attributed to American-Jewish immigrants, especially those from humble backgrounds, who in one or two generations, were experiencing a certain amount of vertical mobility in their adopted country. Medical historians find it puzzling to believe that Flexner did not feel that he personally was the object of the virulent antisemitism sweeping the country at that time and regarded himself to be fully assimilated in America. In a letter to his daughter, a student a Bryn Mawr in 1917, he confirmed

[16] Flexner, 251-255.
[17] Fox, 479-482.

his ”faith in assimilation” commenting, “Social distinctions and classmorés are irrelevant and have no significance as applied to American conditions.”[18]

It is interesting the year the Flexner Report was released publicly (1910), four Jewish professors in the Medical Department of Washington University (St. Louis) were dismissed “under conditions that suggested prejudice” and that Flexner did not comment. Five years later a friend and colleague of brother Simon at the Rockefeller Institute, Jacque Loeb, was denied membership in New York’s Century Club because of his Jewish faith that triggered the resignation of academics at the Columbia University medical school, but again no response from Abraham Flexner. In the early 1920s, Milton Winternitz, Flexner’s close friend and Dean of Yale’s medical school, recalled a conversation with Flexner that his being Jewish was a nonfactor in his professional life “making my way among Christians and working with them. . . prejudice need not be stirred.” The medical historian Daniel M. Fox, in a paper presented at the 52nd annual meeting of the American Association for the History of Medicine, when discussing Flexner’s relative avoidance in discussing antisemitism in the medical community, when he was so expressive of less controversial issues, suggested “that he was sensitive about it.”[19]

Flexner’s response to the Bamberger family who initially wanted to develop a medical school for Jewish medical students when the quota system was in full bloom suggested a denial that discrimination was a factor when he maintained that “Jews do not need a medical school.” This submission may have revealed a reluctance bordering on discomfort to be involved in Jewish affairs. Denying that he experienced antisemitism first-hand, he might have been unaware of the slight Harvard faculty member F.G. Shattuck directed at Flexner when Harvard was

[18] Fox, 481-482.
[19] Fox, 482-483.

denied a GEB faculty grant by Flexner for not endorsing the full-time teaching schedule attached to the proposal: In a letter to friend Henry Pritchett, President of the Carnegie Foundation, he reflected:

> There are circumcised folk in NY, circumcised alike in pecker and intellect
> who can see nothing good in the Harvard Medical School, Lowell or Bradford–
> Every now and again the savor of their skunkhood comes my way. You are
> too wise to be beguiled by them.[20]

Flexner retired as director at age seventy-three after a tumultuous decade, during which time he argued with most everybody including his scholars (notably Albert Einstein) and board members, famously forcing retired Supreme Court Justice Felix Frankfurter from the board. During his years as Director of IAS, he continued his feuds with Arthur Dean Bevan, AMA President, retired Chairman of the GEB, Frederick T. Gates, and a succession of Harvard Medical School deans and presidents who, at one time, sought financial assistance. This ill will dated back to Harvard President Charles Eliot, when he was denied GEB's grant offer in 1915 by refusing the concept of full-time for his medical school faculty. Despite these unpleasant confrontations, Flexner's influence with the GEB persisted despite his untimely retirement from the philanthropic agency. His *chutzpah*, a lifetime trait, even extended to interactions with the White House, when he interceded on behalf of Einstein to turn down an invitation for the scientist and his wife to lunch with President Franklin D. Roosevelt. This intervention was unbeknownst to the Nobel Prize Laureate at the time, but when Einstein became aware of the slight, it remained a source of friction between the two strong personalities.[21]

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[20] Wheatley, 482-483.
[21] Seyal, 12.

The last two decades of Flexner's life were filled with accepting various honorary degrees including the M.D. from the University of Berlin, an LLD from Johns Hopkins University, and the Doctor of Science from his hometown University of Louisville. Accolades and awards poured in from the medical education community, chief among them the Frank H. Lahey Memorial Award, the AAMC Annual Award for Distinguished Service to Medical Education, induction into the Healthcare Hall of Fame, and receiving the Master Education Award from the University of Kentucky. His own education process continued as he enrolled in humanities courses at Columbia University and also wrote biographies of Henry Pritchett of the Carnegie Foundation and Daniel Coit Gilman, the first President of Johns Hopkins University. Over a lifetime, he published works that ran the gamut from how educational philanthropies interfaced with higher education in *Funds and Foundations* (1952) to a sociological exposé titled *Prostitution in Europe* (1924).[22]

He was survived by a unique family of scholarly siblings, his playwright wife and daughters Eleanor, a feminist historian; and Jean, an official at the Department of Labor, who successfully weathered an unwarranted loyalty investigation by Senator Joseph McCarthy's subcommittee during the 1950s. This inquiry provoked Jean's combative father to label the witch hunter "a jackass who has distinguished himself by his baseless and outrageous text." Flexner's place in the American education community was confirmed in 1959 by obituaries in the liberal *New York Times*: "No other American in his time has contributed more to the welfare of his country and of humanity in general," and in the conservative *Chicago Tribune*: "Abraham

[22] Seyal, 12-13.

Flexner was one of the movers and shakers of his era. This world is a different and better one, thanks to his influence."[23]

[23] Seyal, 13-14.

CHAPTER IV: SOUTHERN ISSUES AND A PATHFINDER INSTITUTION

There is a note of irony that Abraham Flexner, the person given credit by the medical education establishment for being, at least, the catalyst for medical education reform of the United States in the early-mid twentieth century was not a physician, like his brothers, Jacob and Simon. Prior to becoming a truly public figure with the release of his informative, controversial and very graphic descriptions of substandard American medical schools in *Bulletin Number Four*, published by the Carnegie Foundation in 1910, his identity was that of a southern, middle-age, non-physician, a respected educator, and sometime sociologist. *Bulletin Number Four*, which became better known as the Flexner Report, was a survey-inspection of the 161 medical schools in North America, 155 in the United States and 6 in Canada. This study was conducted by Abraham Flexner over a sixteen-month period from January 1909 through April 1910 and was assisted by N.P. Colwell, secretary of the AMA's Council on Medical Education (CME). Its coverage in the popular press generated a great deal of interest and revealed to a national audience the educational shortcomings and the inadequate funds and endowments to finance the education of future doctors in an overwhelming number of the country's medical schools.[1]

This eye-opening exposé galvanized a public reaction demanding better educated and scientifically trained physicians similar to those developed in western European countries dating back to the first decades of the nineteenth century. Flexner's pitiless and vivid accounts of the physical plants, which included both the medical schools and their affiliated hospitals, shocked a

[1] James G. Burrow, *AMA: Voice of American Medicine* (Baltimore: The Johns Hopkins Press, 1963), 35.

public not used to Flexner's "brutal objectivity."[2] His descriptions of "wretched facilities," the "foul" dissecting rooms, the "meager" equipment, and the "shockingly bad dispensaries of the weaker medical schools" created a public perception that there were serious deficiencies in America's medical teaching institutions.[3] The general populace was equally unaware of the substandard quality of medical students who graduated to become practicing physicians, the suboptimal faculties in both quality and number, and the antiquated curricula of America's medical institutions (prior to the release of Flexner's survey).

He painted a picture of chaotic organization of institutions graduating poorly prepared doctors delivering inadequate healthcare on an unknowing public. He was successful in exposing the for-profit medical school as the chief culprit of this state of affairs but took solace in the reality of the rapid decline in the number of these institutions. Many were "gasping for breath," targets of a previous AMA CME inspection survey exposing many of their deficiencies.[4] These proprietary medical schools were also unable to survive due to the rising costs of quality medical education, as Flexner judgmentally concluded, "Nothing has perhaps done more to complete the discredit of commercialism than the fact that it has ceased to pay."[5]

The most draconian conclusion Flexner stated in his report was that only 31 of the United States's 155 medical schools evaluated qualified to continue their teaching programs, of which only 5 were located in the South, including Meharry, a medical school in Nashville that trained black doctors. There was relatively little criticism or pushback from the southern institutions that

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[2] Robert P. Hudson, "Abraham Flexner in Perspective: American Medical Education 1865-1910," *Bulletin of the History of Medicine* 46 (1972): 556.

[3] William G. Rothstein, *American Medical Schools and Practice of Medicine: A History* (New York: Oxford University Press, 1987), 146.

[4] James J. Smith and Lucy S. Shaker, *Looking Back, Looking Forward: A History of American Medical Education* (Chicago: Adams Press, 2003), 121.

[5] Rothstein, 146.

were most likely to fail, as many were aware of their substandard status. Some institutions, however, that did not measure up to Flexner's expectations of what an acceptable school should contain were so "chafed with anger and embarrassment" that Flexner was not only vilified by press releases from these schools but also threatened with lawsuits and even one (anonymous) threat on his life.[6] Even some schools that passed muster to survive were critical of Flexner's inspection, including Bowdoin, Indiana, Maryland, Northwestern, and Tufts, as they noted his hastily conducted visits, sometimes limited to less than a half day that they felt were inadequate to fully evaluate an institution's qualities. Although the Carnegie Foundation's representatives admitted to some errors in the details, they concluded that "the essential facts are here."[7]

Flexner's Report also received kudos from many medical schools, most notably from the southwestern institutions, the Universities of Texas and Oklahoma. Praise of the Report was also received from Vanderbilt University's Chancellor J.H. Kirkland, who formed a close personal relationship with Flexner, and both played a meaningful role in making the middle Tennessee school a "pathfinder institution," a model for other surviving southern medical schools to emulate. Following the fallout to *Bulletin Number Four,* Flexner's attitude towards the medical schools in the South changed as he developed a more lenient stance towards their efforts to reform and survive as he began to better appreciate their stunted socioeconomic conditions, especially the southern state's systems of secondary and higher education, compared to the other regions of the country.[8]

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[6] Kenneth M. Ludmerer, *Learning to Heal: The Development of American Medical Education* (New York: Basic Books, Inc., 1985) 184-85.

[7] Ludmerer, 186.

[8] Ludmerer, 246-247.

The statistics that Flexner based his acceptable physician to patient ratios came from pre-World War I Germany and were not applicable to the situation existing in the southern United States in the early twentieth century. He was comparing a heavily industrialized, overall healthy country who recently defeated its neighbor, France, in the Franco-Prussian War (1870-71), and was rewarded with the acquisition of land (Alcase-Lorraine region), in addition to a substantial war reparation payment. The Confederate South, however, was soundly defeated in the four-year Civil War (1861-65) in the United States, leaving the American South crumbling, with basically a suboptimal agrarian economy with minimal industrialization, poverty, four million recently emancipated slaves, and minimal public education, except for ill-attended elementary "common" schools. At the same time, the South had sustained the loss of an estimated three hundred thousand males during the conflict. Only a paucity of southern quality medical schools survived the war, that limited to Tulane, the Medical College of Virginia, and the University of Virginia.

A year after Flexner had been installed as Secretary of Rockefeller's GEB in 1913, a difference of opinion between the CME and the newly hired educator created a momentary schism. The AMA's committee supported uniform admission requirements throughout the country for school ranking and ultimately for accreditation purposes, while Flexner favored the view of the Carnegie Foundation's Pritchett that the southern schools should be allowed an extension, as their systems of secondary and higher education were substandard but rapidly improving. Although the AMA's President Arthur Bevan and the CME's Secretary N.P. Colwell accused Flexner of "meddlesome interference," additional support for Flexner's position came from W.L. Rodman, secretary of the National Board of Medical Examiners.[9] Issues of whether

[9] Ludmerer, 246-247.

the evaluations of particular medical schools were too lenient or too harsh, which schools deserved assistance and which did not, and what time frame was reasonable for a school to raise its standards to the acceptable level were subjects for serious debate. Rodman agreed with Flexner's more tolerant approach for the troubled, borderline, usually southern institution. Flexner criticized the CME for not making allowances for the weaker schools and challenged the CME's Colwell: "The Council will either have to change its policy or we will organize a revolt which will practically detach the South from your field of operations."[10]

Despite the Flexner Report's scare tactic of suggesting the South's healthcare could be provided by the graduates of five of their favored medical schools, this conclusion was somewhat inconsistent with statistics he introduced in his report. He exposed a 44 percent failure rate (dropped out, conditioned, or failed) at Vanderbilt while at Atlanta's College of Physicians and Surgeons, it was 70 percent. Moderate failure rates were recorded at the University of Virginia (38 percent) and the University of Texas (34 percent) medical schools. All of these schools significantly improved their failure rates after 1914 by requiring four years of high school in addition to, at least, one year of college work.[11] Flexner pointed out that "the South is in the midst of a genuine educational renaissance," noting that in recent years "every southern state under the leadership of the state university, the state department of education and certain endowed institutions. . . has set enthusiastically to work to develop its common and secondary

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[10] Ludmerer, 246.

[11] Abraham Flexner, *Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching* (New York: Arno Press and the New York Times, 1972), 37-38. Originally published by the Carnegie Foundation in 1910. Reprint Edition in *Medicine and Society in America* (New York: Arno Press, 1972).

school systems after the admirable model furnished by the robust communities of the middle west."[12]

Flexner noted that in the recent past (1907) high schools in Virginia and Alabama had no legal standing, but by the time *Bulletin Number Four* was released in 1910, Virginia boasted multiple two-, three-, and four-year public high schools financed by both local taxation and the state treasury and provided secondary education for 2,511 boys. In addition, the state was home to numerous prep and military secondary schools, from Alexandria to Bristol, augmenting a supply of potential medical school candidates that could meet the requirements of the state's two surviving medical schools. A similar situation evolved in Alabama, when in 1907 "there was scarcely a public high school in the state," but three years later the state and private systems accounted for sixty-one public four-year highs schools, eleven private four-year high schools, and fifteen town and city three-year high schools. Prior to the Carnegie Foundation survey conducted in 1908-1909, six southern states including Alabama, Georgia, Louisiana, South Carolina, Virginia, and Texas provided education for over 15,791 male graduates, who filled 5,877 places in the academic departments of southern state universities and an additional 1,653 spots in endowed private colleges. (Figures for four-year high school students were unavailable for Mississippi, Florida, North Carolina, Tennessee, Arkansas, and Kentucky.) [13]

What impressed Flexner was that according to his calculations based on the German model of physician to population ratios, the South required only four hundred new doctors annually (the Southern Medical College Association figured a minimum of three hundred), and with the increasing number of qualified high school graduates, this quota was easily feasible, since

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[12] Flexner, 39-40.
[13] Ibid.

southern medical schools would not have to rely on the ill-educated "poor boy torn from the plow" to fill the quota. Relying on the German demographic model, however, was not found to be applicable to the American South.[14]

The region's high school system was limited to a "few miscellaneous courses to the common school," but it was the private schools and church academies that prepared the overwhelmingly male student bodies for a college education. These private schools were of reasonable quality but acceptable enough for the wealthier families to send their sons and acted to prevent or delay the establishment of public supported secondary schools.

Public secondary schools in the South supported mainly by county taxes made their appearance in Tennessee in the late 1880s in the larger cities to prepare males for admission to the University of Tennessee. "Graded schools" were introduced in Mississippi in the late nineteenth century by school trustees to offer high school courses to be paid for by direct fees from parents. This situation was considered acceptable but was without state support or supervision. Towards the end of the nineteenth century Virginia attempted the establishment of state sustained high schools but the legislature tabled the proposal.[15]

It was not until the first decade of the twentieth century that Chancellor Walter B. Hill of the University of Georgia, realized that his university, typical of most universities in the South, had limited attendance due to the lack of qualified in-state students seeking higher education. In response, Hill developed a system where the University hired a "high school agent," a professor of secondary education, Dr. Joseph Stewart, with half of his salary being paid by the wealthy

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[14] Flexner, 16-17.

[15] Charles William Dabney, *Universal Education in the South*, Vol. 2 (Chapel Hill: University of North Carolina Press, 1936), 408-409.

philanthropist George Foster Peabody of New York. Stewart's individual goal was to develop a system of accredited high schools that would graduate educated and qualified students to meet the requirements of college and university programs but also to prepare the participants for a fuller life. Canvassing the state and working with both local and state officials, high schools were established with funds from both local and state agencies, and a system of accredited secondary schools evolved with ever-broadening coursework to prepare students for gainful employment and higher education.[16]

The system Stewart developed for Georgia to initially fill the university/college systems with qualified students was in place by 1904 and adopted throughout the remainder of the southern states with impressive results. Georgia started with only 11 high schools accredited in the state, that graduated 215 boys, of which only 50 entered the state University of Georgia in the fall. However by 1910-1911 there were 950 male public high school graduates, of which 196 became freshmen at the university in the fall. By 1918 there were 1,500 boys with degrees from accredited state high schools, of which 269 were admitted to the university. Similar results were achieved throughout the southern states that adopted Dr. Stewart's system of accreditation in their secondary schools. In 1919, 3,752 students graduated from Georgia's 164 accredited four-year high schools (both public and private), and of the 1,200 teachers at these schools, 62 percent held college degrees. Subsequently, all the South's state colleges embraced the University of Georgia's accreditation system and achieved similar results.[17]

Successful legislation in Georgia made improvements possible initially allowing counties and districts to levy taxes after 1905 in support of the accredited high school system (1905), and

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[16] Dabney, 410-412.
[17] Dabney, 413.

in 1912, making the high school a legal part of the public school system requiring a state license for high school teachers. To fiscally support this system, a law passed in 1919 that accounted for state funds to assist in the establishment of four-year standard high schools followed by legislation requiring one-half of the total revenue of the state set aside for the maintenance of public schools. Funds granted by the GEB subsidized Stewart's efforts in Georgia to come to fruition. Because of his success in establishing a system of quality secondary education in Georgia for white students, the Rockefeller Foundation's GEB granted funds for the additional southern states to finance the salaries and expenses of their professors of secondary education. This enabled the southern states to continue their work in the development of secondary education for white students in the South, a line of philanthropy that proved both efficacious and wise, taking into account the segregated systems in the Jim Crow South.[18]

The success of developing an accredited system of high schools in Georgia reaped rewards that had a multiplier effect. Their graduates filled the colleges and universities with students that would develop the skills necessary to be eligible and to compete successfully at the graduate school level. Georgia's success in implementing its program of accredited high schools and having it adopted throughout the rest of the South likewise raised the quality of students entering their state's medical schools and became a factor in Flexner's changing attitude about the viability of southern medical schools as they were now educating and graduating qualified students from their institutions of higher education. South Carolina's State Superintendent O.B. Martin reflected that prior to the development of high schools in his state, colleges "resorted to all kinds of expedients to secure a few prepared students. . . and suffered where high schools

[18] Dabney, 414-415.

were few and poor." In his frustration, he noted that it was poor policy for the state government to spend $250,000 on colleges at a time when they made no provisions for high schools. This paradigm changed after "secondary schools became sufficient in number and thorough in their work."[19]

Now that the South had achieved an acceptable system of publicly supported high schools for whites, the region was now supplying its colleges and universities with students who had the background and potential to develop intellectually to continue their education at the postgraduate level. Medical school was certainly one of these possibilities, but the quality of many of the surviving southern institutions following the CME and Carnegie Foundation's inspection surveys was put into question. To raise the expectations and quality of these schools, it would be ideal to have a nearby exemplar to "show them the way." Fortunately, a pathfinder institution was in the neighborhood.

The Early Pathfinder Medical School of the South

Flexner visited Louisiana in January 1909 to survey both of the state's two medical schools, the Medical Department of Tulane University (MDTU) and Flint Medical College (FMC), both of which were located in New Orleans (population 332,169) which comprised one-fifth of the residents of the entire state. He noted in his report that there were about 1,800 practicing physicians in Louisiana for a ratio of 1:900 with the state's population. He was struck by the stark contrast of the two institutions. FMC was the medical department of the "colored" New Orleans University founded by the Freedman's Aid Society of the Methodist Episcopal Church and organized in 1889. The MDTU was initially organized in 1834 as the University of

[19] Dabney, 417-418.

Louisiana, and the medical school became a department of the University in 1845. The institution later changed its name to Tulane University in 1884 with the medical school reorganized as an organic department of the University in 1902.[20]

The FMC's resources amounted to $1,300 from the tuition fees of its 24 attendees, which was supplemented by a minor appropriation from the Freedman's Aid Society, while the MDTU held an endowment of almost $1 million, which spun off $26,000 per year, as well as $67,500 in fees from its 439 students. The 15-member faculty of the FMC were all practitioners, 6 of whom were professors, none full-time, while the 75 member staff at Tulane boasted 17 professors, 5 of which were full-time in charge of the laboratory branches and functioned entirely as teachers and research investigators. The laboratory facilities at the black institution were "scant. . . in poor condition," in contrast to the "new and excellent laboratories" that provided the preclinical experience for Tulane's students.[21]

The clinical exposure for Tulane's students was "unique and unusual" with teaching opportunities supplied by the state-administered Charity Hospital's 1,050 beds. A recent addition to this teaching hospital was a ward specifically arranged for surgery and gynecology patients with "full control being vested in the Tulane faculty. . .ensured through legislative enactment." The meager clinical facilities for FMC were their hospital of twenty beds, averaging seventeen patients monthly, and a dispensary averaging one or two patients per day. Entrance requirements for Tulane's medical department were four years of high school education "administered by

[20] Abraham Flexner, 231-232.
[21] Ibid.

academic authorities" being the nominal standard for the time. The Flexner Report contained no data for the selection process of students at Flint Medical College.[22]

It was obvious in Flexner's survey that he was impressed not only with the medical department of Tulane University but also with its potential to becoming a "pathfinder" institution for the less endowed medical schools in the South to follow and that the institution "deserved" further development. Flexner noted that Tulane was an outlier in a region that was "overcrowded with schools with which nothing can be done. . . conducted by old-time practitioners, who could not use improved teaching facilities if they were provided." He emphasized that Tulane's success as a regional leader was the result of recent reorganization efforts in recruiting talented faculty filling "important departments." He concluded that the medical department, "if properly supported, will quickly bring the institution to a position of commanding influence." He stressed the primary importance of relying on a generous endowment instead of student fees as so many proprietary southern institutions did.[23]

Flexner assessed Flint Medical College as a "hopeless affair, on which money and energy alike are wasted." He consistently supported the contention of the "urgent need in respect to the medical education of the negro." The pragmatic educator, however, realizing the slender resources available for such ventures, encouraged sending those resources and acceptable black students in the South to the Meharry Medical College in Nashville, which was "much the most favorably situated for the purpose."[24]

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[22] Ibid.
[23] Ibid.
[24] Ibid.

Tulane's medical school, apart from all the older southern institutions, has a unique history dating to its founding in 1834 in New Orleans. This large, trilingual city noted for its cuisine, culture, wealth, and educated civic leaders, served as a conduit for a young, emerging country to the world through its famous port on the Mississippi River, which also serviced the American South and Midwest. This medical school was established by seven distinguished citizen-physicians of New Orleans as the medical department of the University of Louisiana, whose name, approved by the state legislature, changed in 1884 to Tulane University, in honor of a significant endowment gift from businessman Paul Tulane.[25] What began as an independent proprietary medical department, the school participated in the early medical reform movement, which began with the organization of the AMA in 1847. These changes were endorsed by the University of Pennsylvania Medical School, the College of Physicians and Surgeons in New York (later Columbia), and Rush Medical College in Chicago (later Northwestern University).[26]

Following the acquisition of Paul Tulane's generous endowment, the progressive faculty member Dr. Stanford E. Chaillé became the new dean in 1885. He obtained full access and control of New Orlean's Charity Hospital, and shortly thereafter the medical school became recognized as a regional and national leader. Full-time faculty was recruited for both the preclinical and clinical positions. In 1886 the improved institution offered an additional pre-medical course curriculum with an emphasis on the sciences, English literature, and German for only fifty dollars for students who applied for admission but required further enrichment in these areas. By 1891 the school's curriculum was increased to three years of twenty-four-week

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[25] John Duffy, *The Tulane University Medical Center: One Hundred and Fifty Years of Education* (Baton Rouge: Louisiana State University Press,1984), 60, 63.

[26] Martin Kaufman, *American Medical Education: The Formative Years, 1765-1910* (Westport, Conn.: Greenwood Press, 1976), 127-130.

sessions, like leading northern institutions. Dean Chaillé also announced that year the enrollment had risen to 407 students, a four-fold increase since 1875.[27] The academic reforms of the medical department led to significant medical philanthropy on the part of wealthy citizens in a city that reinserted itself as the economic leader in the postbellum South. The wife of retired surgeon Professor Richardson donated almost $150,000 for a new building to house the entire medical department which became ready for occupancy in the fall of 1893.[28]

In the first decade of the twentieth century, just as the revitalized AMA with its CME "arranged" for the Carnegie Foundation's Flexner Report that catalyzed the medical education reform movement, the Medical Department of Tulane University was particularly proud to report a peak enrollment of 517 students. The medical school had just received a timely donation of $746,000 from business executive Alexander Charles Hutchinson "for the sole and exclusive benefit of its medical department." This gift enabled Tulane's medical school to transition from a proprietary institution to a recognized division of the University, with the finances to hire full-time professors and add to its infrastructure of the "uptown campus."[29] This growth included the Richardson Memorial Building, Chemistry Building, and a student dormitory, as classes for the preclinical students were removed to this location. At the same time, Dean Chaillé retired and was succeeded by Dr. Isadore Dyer.[30]

Just prior to Flexner's visit, the new dean initiated tougher admission requirements for its incoming freshmen and arranged for the preclinical sciences to be taught on the uptown campus

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[27] Duffy, 71-73.

[28] Duffy, 73-75.

[29] Duffy, 95-97.

[30] *Bulletin of the Tulane University of Louisiana, Medical Department, 1907-1908*, ser. 9 (June 1908), 8-9; Duffy, 106. Special Collections, Howard-Tilton Memorial Library, New Orleans, Louisiana.

and the clinical years held at the downtown facility (Charity Hospital). He also encouraged the students to pursue a six-year program at Tulane, which awarded both B.S. and M.D. degrees. In the fall of 1909, Tulane became a member of the AAMC and later received an "A" rating in 1911.[31] After receiving accolades from the Flexner survey, the United Fruit Company underwrote a new addition to Tulane's Medical Department with the School of Hygiene, Tropical Medicine, and Preventive Medicine, which morphed into its subdivisions by 1915. Subjected to administrative disarray, scandal, competition from Johns Hopkins, and America's entry into the World War I, the Schools of Tropical Medicine and Hygiene were suspended by the dean.[32] Despite this setback, with a revised curriculum and its new entrance requirement in 1917 for incoming students to have at least two years of college, Tulane was recognized as the leader of southern medical schools and in the top 10 percent of medical schools nationally.[33]

A controversy surrounding the acceptance of women in the medical school followed the acceptance of women to attend pharmacy courses in 1888 and become eligible for a pharmacy degree in 1893. A very conservative faculty and administration maintained male exclusivity in the medical school following the commencement address of 1895 by Dean Chaillé, who emphasized women's roles as "good and wise mothers of pure and modest daughters—has thus far failed to find one who approves of such mixed classes."[34] The New Orleans ERA Club, a female rights organization, took up the fight on the Dean's retirement in late 1907, making minor

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[31] Duffy, 118-119.

[32] Duffy, 112-116. Minutes of the Faculty, September 23, 1918, VI, 75. Special Collections, Howard-Tilton Memorial Library, New Orleans, Louisiana.

[33] Minutes of the Faculty, February 1, 1916, V, 353-359. Special Collections, Howard-Tilton Memorial Library, New Orleans, Louisiana.

[34] *Annual Report to the President*, 1895. Special Collections, Howard-Tilton Memorial Library, New Orleans, Louisiana.

headway in 1909 with the faculty appointment of Sarah Creekmore in bacteriology and pathology. In 1911 the school added Dr. Elizabeth Bass in pathology and Dr. Edith Ballard in clinical obstetrics. It was not until 1915 that the faculty voted to admit women as medical students, "with only one dissenting vote." In 1916 Linda Hill Coleman was admitted to Tulane's medical school after completing three years at the University of Texas, becoming the first woman to receive an M.D. degree at Tulane in June 1917.[35]

The era between the wars began inauspiciously with the sudden death of Dean Dyer in October 1920, who was replaced by Professor Charles C. Bass in the summer of 1922. His initial challenges involved reorganizing the curriculum for the students' clinical years to gain adequate exposure to the growing list of specialties. With the impetus of the faculty, the block system was instituted in 1930, which assigned clinical students to courses or clerkships in the subspecialties in blocks of six to nine weeks.[36] These organizational changes were preceded by the hiring of young, highly motivated full-time clinical faculty members selected for their teaching and research abilities. These acquisitions not only coincided with the intents of Abraham Flexner, but the educator was also able to direct funds for Tulane's medical school's research programs from the Rockefeller Foundation's General Education Board (GEB), beginning with a $75,000 grant given over five years beginning in 1924.[37] Another grant of $30,000 per year for five years given by the GEB allowed Tulane to replace the retiring part-time Chief of Surgery Matas in 1925 with

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[35] James P. Morris, "Women in Medicine," *Tulane Medicine*, 5 (1973): 4; *New Orleans Medical and Surgical Journal*, 67 (1914-1915): 647-48; and 70 (1917-1918): 104.

[36] *Minutes of the Faculty*, March 11, December 1, 1930, VII, 183, 219. Special Collections, Howard-Tilton Memorial Library. New Orleans, Louisiana.

[37] *Tulane News Bulletin*, 7 (1926-27): 139-40. Special Collections, Howard-Tilton Memorial Library. New Orleans, Louisiana.

a full-time doctor, E.W. Alton Ochsner, a "shooting star" from the University of Wisconsin.[38] Tulane's board of administrators defined full-time as someone who collected fees from private patients in no more than 15 percent of the time (the Michigan Geographic System).

Using a combination of the Hutchinson Fund and the Rockefeller GEB grant of $1,250,000, the Hutchinson Building was erected and ready for occupancy in December 1930.[39] Located adjacent to Charity Hospital instead of the uptown campus, it housed faculty and administrative offices, a library, a large auditorium, and clinical and x-ray laboratories. The new building also included a small outpatient and multispecialty clinic for downtown, full-time faculty to treat their private patients.[40] Despite this cooperative effort between Tulane's Medical School's faculty and Charity Hospital's administration, the latter was accused of a lack of cooperation with the Tulane faculty, which seriously impacted the clinical teaching program of the medical school. These differences seemed to be resolved in the mid-1920s with the agreement of Charity Hospital's Superintendent to assign five hundred teaching beds to the medical school, called the "Teaching Service in Charity Hospital." What began as a misunderstanding involving Tulane's Chief of Surgery Ochsner and the Hospital's Superintendent Arthur Vidrine developed into a serious dispute with Tulane's Dean Bass over faculty admission privileges at the hospital. These political squabbles were exacerbated after

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[38] *New Orleans Item-Tribune*, September 5, 1927. Special Collections, Howard-Tilton Memorial Library. New Orleans, Louisiana.

[39] *Minutes of the Faculty*, December 20, 1928. Special Collections, Howard-Tilton Memorial Library. New Orleans, Louisiana.

[40] *New Orleans Medical and Surgical Journal*, 82 (1929-30): 645-647. Special Collections, Howard-Tilton Memorial Library. New Orleans, Louisiana.

Charity Hospital's facilities were shared with the Louisiana State University School of Medicine, a creation of Governor Huey Long, which opened for the Fall 1931 session.[41]

During the 1920s Tulane's medical school had an unusually high failure rate among many of its freshman class, primarily the result of a policy of mandatory acceptance of Tulane undergraduates who completed the pre-med curriculum, even if they were poor students. The high attrition rate of these preclinical students, at times comprising almost a quarter of the freshman class, finally led to the elimination of these lax acceptance policies by 1939, as well as an increase in the college premed coursework to three years with a minimum C-average grades.[42] In the mid-1920s the Department of Tropical Medicine was reestablished with donated funds by alumnus Colonel William C. Vincent and a grant from the Commonwealth Fund, which allowed Tulane to redevelop a Department of Preventative Medicine.[43] A unique faculty appointment, Dr. Willey Denis, as the head of the biochemistry department, was made in 1925, the first woman department chair at the medical school. She died unexpectantly in 1929 when she was recognized as "one of the very few really exceptional women in the domain of pure science."[44]

Funds raised for a private medical school in the Depression South to maintain both the institution and endowment was a very precarious and tricky process. Lack of sufficient finances saw the demise of the ancillary divisions of Tulane's medical school, including its graduate school (1937), the dental school (1934), and its pharmacy school (1934). The medical school

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[41] *New Orleans Time-Picayune*, September 18, 1930, and October 6, 1931.

[42] *Bulletin of Tulane University, School of Medicine*, 1940-41, 35. Special Collections, Howard-Tilton Memorial Library. New Orleans, Louisiana.

[43] Duffy, 156.

[44] *Minutes of the Faculty*, March 5, 1929, VII, 148-49. Special Collections, Howard-Tilton Memorial Library. New Orleans, Louisiana.

itself had to forego the construction of a new library facility, continuing to share occupancy with the Orleans Parish Medical Society in the Hutchinson Memorial Building.[45]

During the 1920s Tulane's medical school was able to increase its endowment by three million dollars with a local fund drive, spearheaded by citizens and the Junior League, named "Keep The Doors Open," with matching funds supplied by the GEB and the Carnegie Foundation.[46] During the Depression, Rockefeller Foundation funds contributed to the development of the psychiatry department and the Commonwealth Fund financed fellowships for pediatrics. On the eve of World War II, an additional $150,000 for the department of preventative medicine was appropriated by the Commonwealth Fund while the Rockefeller Foundation supported the department of tropical medicine with a $208,000 grant.[47] Tulane was able to climb out of the Great Depression financially intact, which was a significant achievement for a southern private institution.

The medical education reform movement was particularly fortunate to occur at a time that the country was experiencing its progressive era, a period when "muckraking" journalists were exposing shortfalls in the nation's public institutions, especially those impacting the health and longevity of its citizens. Jacob Riis' photographs of the squalor and rat-infested, disease-ridden tenements poor working-class urban dwellers were occupying, and the dangerous working conditions for child labor in unsafe factories and mines created a public outcry after the 1890 release of his book *How the Other Half Lives*.[48] Followed by Upton Sinclair's *The Jungle* in

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[45] Duffy, 158-162.

[46] John Dyer, *Tulane: The Biography of a University, 1834-1965* (New York: Harper and Rowe, 1966), 189-191.

[47] Duffy, 163.

[48] Jacob A. Riis, *How The Other Half Lives* (New York: Hill and Wang, 1957), 1-2.

1906 revealing the unhealthy, unsanitary working conditions of Chicago's meatpacking plants and the horrific industrial accidents affecting the purity of its product shocked a readership to active. This exposé triggered an aroused public to lean on their legislators to pass the Pure Food and Drug Act and Meat Inspection Act in 1906 that remains on the books more than a century later.[49]

In much the same way Americans became aware of the substandard quality of their proprietary medical schools and their graduate physicians after the public release of the Flexner Report. Realizing that the European medical schools were well ahead of the United States in supplying their countries with well-educated and trained doctors in a system that promoted both research and public health initiatives, the pathways to reform became a priority, especially among the second-tier establishments. If these schools were unable to meet the requirements supported by the "reform coalition" of the AAMC, AMA's CME, and the state health boards, the troubled institutions, especially those in the South targeted by Flexner in *Bulletin Number Four* would not survive.[50] The good news was that by 1910 the wealthy philanthropic foundations were already triaging funds for the better medical schools to bolster their education programs. Unfortunately rarely were the "B" rated, second-tier southern medical school the recipient of such generosity, making their pathway to accreditation and survival tenuous at best.

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[49] Upton Sinclair, *The Jungle* (New York: Harper and Rowe, 1951).

[50] E. Richard Brown, *Rockefeller Medicine Men: Medicine and Capitalism in America* (Berkeley: University of California Press, 1979), 145-150.

CHAPTER V: POST FLEXNER REPORT: REFORM AND SURVIVAL STRATEGIES OF THE SOUTHERN MEDICAL SCHOOLS

The inspection surveys conducted by the AMA's Council on Medical Education (CME) in 1906-1907 and by the Carnegie Foundation (Flexner Report) in 1909-1910 applied basically the identical criteria to determine what was considered sufficient to operate a successful and quality medical school. Following the CME's inspection, which released its results confidentially to only the state licensing board and the institution examined, the number of medical schools were trimmed from 166 to 155 by the time of Flexner's survey three years later. This reduction occurred either through the merging of schools or their inability to continue operation (failing to survive). A medical school ranking system was developed by the CME as the result of its survey in 1907, with eighty-two of the institutions ranked Class "A" (acceptable), forty-six ranked Class "B" (doubtful), and thirty-two ranked Class "C" (unacceptable). Although these rankings held no legal or official significance, they provided the medical education community an unambiguous message of what was required of an acceptable medical school and in the era of education reform of the new science-oriented profession.[1]

The criteria adopted by Abraham Flexner for the Carnegie Foundation's inspection survey of 1909-1910 included: (1) entrance requirements for matriculating students who had completed four years of high school that included a year's study of chemistry, biology, and physics; (2) the size and training of the school's faculty; (3) the size of the school's endowment;

[1] E. Richard Brown, *Rockefeller Medicine Men: Medicine and Capitalism in America* (Berkeley: University of California Press, 1979), 140-41.

(4) the quality of school's laboratories; and (5) the availability of a teaching hospital where physicians and surgeons would serve as clinical teachers.[2] Flexner also advocated the standardization of all American medical schools to that of the leading institutions, not that of the average schools. He summed up, "The point now to aim at is the development of the requisite number of properly supported institutions and the speedy demise of all others."[3] Flexner viewed the improvement of medical education as a public health measure, and he thought the business ethic adopted by the proprietary medical schools conflicted with the social aspects of medical practice, "not a business to be exploited." Because he felt that the practice of medicine and public health were linked inextricably to the country's welfare, it was the state responsibility to deal with the optimal education of the country's physicians, as they had become "social instruments."[4] In these "muckraking" years of the early twentieth century, a number of state licensing boards formed the Federation of State Medical Boards (FSLB) in 1912 and decided, as a group, to employ the academic standards of the AMA's CME to determine its accreditation policies on academic standards, basically giving the CME's decision-making the "force of law."[5]

The public release of the Flexner Report in the Carnegie Foundation's *Bulletin Number* 4 in the late fall of 1910 was startling news to a populace that had been kept in the dark about the poor quality of an overwhelming number of American medical schools, as the non-physician educator determined that only 31 of the institutions inspected were acceptable enough to continue operation, only 7 of which were located in the 12 southern states. Flexner's conclusions were based on his inspection of the 155 medical schools in North American that included on-

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[2] Andrew H. Beck, "The Flexner Report and the Standardization of American Medical Education," *Journal of the American Medical Association*, 201, no. 17 (2004): 2139.

[3] Beck, 2140.

[4] Ibid.

[5] Ibid.

campus interviews, observations, data-gathering, and a critical examination of the various institutions' literature and bulletins while using the five benchmarks as his guideline. Flexner reached his determinations using the German medical schools as his model, possibly the most advanced in the Western world, but he felt that by reducing the number of inadequate medical schools and their poorly trained graduates, the United States could approach the ratio of one physician per two thousand citizens in the entire country, and one per one thousand souls in the large cities, a standard Germany had achieved.[6]

Flexner noted according to 1908 demographic statistics that the twelve southern states averaged 1 doctor for every 780 persons, which compared favorably to states in other regions of the country–Pennsylvania (1:636), Nebraska (1:658), Oregon (1:646), and the occasional outlier such as Colorado (1:328). The population increase in the South in 1908 was almost 380,000 while nationwide it was almost 1,000,000 persons, maintaining roughly the above ratios, which were consistently more than the German model recommended and crowding the field of practicing physicians by one-third. The AMA felt that this competitive working environment made it increasingly difficult for doctors to make a decent living. That most of this oversupply of doctors held diplomas from substandard proprietary or sectarian institutions prompted Flexner to conclude that the "matter of a fresh supply are not such as to make it necessary to pitch their training excessively low. . . and that the country needs fewer and better doctors, and the way to get them is to produce fewer."[7] Noting that even if the "present schools" significantly improved,

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[6] Abraham Flexner, *Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching*, Bulletin No. Four (New York: The Carnegie Foundation, 1910), 37-39. Originally published by the Carnegie Foundation in 1910; Reprint edition 1972 in *Medicine and Society in America* (New York: Arno Press, Inc., 1972).

[7] Flexner, 16-17.

it would be both "wasteful and impractical for they could not be manned." He resolved, "Some day doubtless, posterity [with] reestablish a school in some place where a struggling enterprise ought now to be discontinued. Towards that remove contingency nothing will, however, be gained by prolonging the life of the existent institution." Flexner also meant to reassure the ill-served public that the better educated "physician's range, actual and virtual, increased with his competency."[8]

It seems that Flexner anticipated a significant blowback from the substandard southern institutions targeted in his survey for elimination, but in his summation of each state's evaluation, he discussed the possibility of some selected schools combining to survive. These institutions were usually ranked in the "B" class and were located in the same city. Such institutions could consolidate and pool their resources to provide a class "A" institution for their community. This mechanism had already been put into practice with institutions of similar caliber following the CME's 1907 survey and appeared to be a logical approach to improving the quality of the merged school while eliminating the total number of troubled institutions in a particular locale. Flexner examined a total of thirty-three medical schools in the twelve southern states and recommended, with only minimal hesitation, that the medical schools of Tulane, Vanderbilt, the University of Virginia, Meharry, the University of Alabama, and the three preclinical medical schools of the University of Mississippi, Wake Forest College, and the University of North Carolina had the right stuff to continue operation. All these medical schools were the organic departments of universities; none were homeopathic or sectarian institutions.[9]

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[8] Flexner, 17-18.

[9] Flexner, 148, 152-153.

Prior to the Flexner Report and following the AMA's Council on Medical Education's (CME) inspection survey of 1906, the city of Louisville successfully merged five of its allopathic medical schools in a stepwise fashion to become the Medical Department of the University of Louisville in 1909, although the "university" was a hybrid of a proprietary and municipal institution. Louisville was the largest city (population 240,160) in a state of 2,406,857 citizens and was identified as one of the "five especially rotten spots" in the country in terms of the quality of its seven "for-profit" medical schools, resulting in a doctor:patient ratio of 1:649.[10] The CME recommended a merger with the hope that with a thorough consolidation of material resources and hiring of better faculty members, the new entity would become "much stronger than any of its predecessors."

Although this merged medical school evolved into the medical department of what became a municipal university, it had no endowment or funding from an established university, and as Flexner noted in his 1910 Report, "The university was limited to loosely aggregate schools of law and medicine."[11] Flexner was also aware that the merged medical school had over six hundred students, which implied low standards, especially for a southern state with limited resources. The fact that it called itself an academic department of a university was essentially a construct of the institution's founders and administrators. When summarizing the situation in Louisville in his "General Considerations" section, Flexner was extremely pessimistic. He noted that the schools realized that its "large scattered plant created a strain on its six hundred students with its overcrowded and undermanned laboratories and whose clinical facilities were meager at

[10] Flexner, 229.
[11] Flexner, 229-231.

best." With no visible means of significant financial support, a large contingent of students with their tuition fees were necessary to carry the school.

With no actual resources except the property and scattered classrooms and buildings of the merged medical schools, Flexner was wary about using the term "medical department" of a university when there were no courses offered in the arts, languages or sciences and. . . [felt they] "ought to be called by their right name. . . An academic department of a university they are not."[12] This bleak assessment was arrived at by a native of the city, where two of his brothers received their medical degrees.

In his *Bulletin Number 4*, Flexner commented on the merged faculty of ninety including forty clinical professors and a large preclinical staff that consisted of "four whole-time professors of modern training" with numerous assistants. Flexner did not comment on the quality or training of the faculty professors, although it was common practice in proprietary schools that owners identified as professors. Flexner noted the inadequacy of the preclinical laboratories for such a large student body, and he was equally critical of the clinical teaching program with less than fifty beds, with an average census of thirty available for students. There were "rare" obstetrical cases, and the obstetrical ward was closed to students. There was no contagious disease pavilion provided for students' clinical exposure, and although the outpatient dispensary was well run and attended by a wide variety of clinical patients, the experience was limited due to the excessive number of students.[13]

Flexner's survey-visit to the newly merged University of Louisville Medical Department occurred in January 1909, a time after the consolidation of the five allopathic schools was

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[12] Flexner, 231.

[13] Flexner, 229-230.

completed, and his pessimistic appraisal of the newly formed medical department was a bit premature in the least. As the city of Louisville took on the responsibility and welfare of the newly forming municipal university and medical department, it appropriated $25,000 for the renovation and modernization of the latter's laboratories later that year. In 1910 another $10,000 was garnered by the medical department for faculty salaries.[14] The property that the merged medical schools owned was in the process of being reorganized, and by 1914 a full-time president, Arthur Ford, was elected by the Board of Trustees, with his $3,600 salary paid by the Medical Department. His predecessor, David W. Fairleigh, who was disparaged by Flexner as "a politician, without educational qualification or experience," was able to apply his political skills with the city council in 1911 for annual appropriations that insured a guaranteed revenue flow for the fledgling medical school in addition to student tuition fees.[15]

In the adjacent state of Tennessee, Flexner encountered another chaotic situation, not unlike Kentucky, where a high number of institutions (nine) stretched across a state measuring over four hundred miles in length. Tennessee was bordered in the west by the Mississippi River and Memphis, and in the east by the Appalachian Mountain chain and the city of Knoxville, with the capital city of Nashville occupying the center of the state. This geographical arrangement required Flexner to make the inspection tours of the state's seven eastern and mid-state medical institutions in January 1909. The three western schools, all located in Memphis, were visited in November 1909. At the time of his first visit, two of the medical schools, the University of Nashville and the State University of Tennessee in Knoxville (renamed the Tennessee Medical

[14] Joan Titley, "Medical Education in Louisville, Part 3: Mergers and Modernizing, 1900-1920," in *Tractions* (Student Newsletter), Bulletin No. 10, April 1967, 4-5. History & Archives Collections, Kornhauser Health Sciences Library, University of Louisville, Louisville, Kentucky.

[15] Ibid.

Department under limited contract set to expire in 1912), merged, with the latter relocating to Nashville.[16] Three of the state's medical schools were identified as "negro," and two of these, the Knoxville Medical College and the University of West Tennessee Medical Department in Memphis, had little merit according to Flexner, as they both demonstrated "meager equipment" and poorly prepared medical students. These substandard schools had minimal laboratories and clinical facilities, and entrance requirements were nominal. There was no physical plant to speak of for teaching purposes, as Flexner made in a pointed criticism directed at the Knoxville school for occupying a floor above an undertaker's establishment.[17]

Flexner was much more bullish about the "Colored" Meharry Medical College in Nashville (population 107,000), which had adequate, although suboptimal, entrance requirements and "highly creditable laboratories for preclinical sciences." The main criticism of Meharry was that students had only limited access to thirty-two clinical teaching beds, but Flexner concluded that "the equipment and general conditions reflect great credit on the zeal and intelligence of those in charge of the school and several departments."[18]

Flexner was immediately dismissive of Chattanooga Medical College's ability to survive as an accredited institution, noting that the school occupied "a small building, extremely attractive; the interior dirty and disorderly. . . almost bare." Preclinical laboratories contained "two tables in a dissecting room. . . four old specimens, mostly unlabeled, and one microscope for the study of non-pathogenic microbes; students do not handle the pathogenic. The clinical experience for students is mainly in the amphitheater observing no post-mortems, no contagious

[16] Flexner, 302-303.
[17] Flexner, 303.
[18] Flexner, 307.

diseases, doing no blood or urine work, and has no dispensary." Flexner described similar setups at the Tennessee Medical College in Knoxville (population 38,000) as "externally attractive: within dirty." The preclinical sciences were taught without books, museums or charts, and although adjoining a neat (private) hospital that averaged forty patients, there were not free wards for students to follow patients, and obstetrical instruction was "limited to a few deliveries before the class." Flexner derisively commented when evaluating the similarly endowed Chattanooga Medical College that these were "typical of schools that claim to exist for the sake of the poor boy and the back country."[19]

Proceeding westward to Memphis (population 140,000) did not reveal much in the way of improvement, as Flexner labelled the College of Physicians and Surgeons a "fictitious affair" when claiming itself to be the medical department of the University of Memphis. There were no entrance requirements ("accept students and try them out") and although the main building was exceptional and the dissecting rooms of modern design, "the work was conducted on antiquated lines" and cadavers in "wretched condition." For obstetrical cases the students could only observe, and there were only ten beds available for teaching purposes, although an active dispensary was sufficient for the students' outpatient experience. The Memphis Hospital Medical College occupied an expensive well-kept building, but the cadavers were "putrefied" and, as a teaching facility, considered inadequate. Both the preclinical and clinical work was ungraded, and the amount of clinical material was "absurdly inadequate for the huge classes." The college had a total attendance of 442 students.[20]

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[19] Flexner, 302-303.
[20] Flexner, 304-305.

The merging of the medical schools in Nashville, the University of Nashville ("a university in name only") and the Tennessee Medical Department (formerly in Knoxville) had a combined attendance of 207 students and was fortunate to have partial legislative funding, since the latter school was a department of the state university in Knoxville. The clinical teaching beds provided the merged entity were adequate, which included a seventy-bed hospital and access to the City Hospital's additional clinical beds and large dispensary. The preclinical laboratories, including the dissection room for anatomy, was inadequate in both size and quality. Nashville was fortunate, however, to be the home of the Vanderbilt University Medical School, which contained "specific laboratories with energetic instructors, and a creditable experimental physiology lab in addition to a useful museum and library." Negative features included an "antiquated and foul" dissection room, and clinical exposure limited to only one hundred teaching beds, although the outpatient (dispensary) services were sufficient and actively attended. The school's entrance requirements were "less than a high school education," but a significant body of students were graduates or had taken courses at the University.[21]

It was evident in Flexner's summation of the medical school situation in Tennessee that he was in a quandary about which institution(s) had the potential of improving to survive, either through merging with a consolidation of resources or with private funding by the community, alumni, or philanthropic agencies. The fact that one of the merged schools in Nashville, the Tennessee Medical Department, was a valid department of the University of Tennessee and received financial support from the state legislature maintained a possible pathway for the institution's survival. Flexner, however, in his summation quickly eliminated all but Vanderbilt

[21] Flexner, 305-307.

and Meharry's medical schools as able to continue operation. In Vanderbilt's favor was its longtime location in Nashville and being a department of a respected regional university, whose patron family maintained its wealth and influence well into the early twentieth century. Impressed with the university's chancellor and medical school Dean Kirkland, Flexner envisioned the institution's potential as a "pathfinder" school, serving as a model for less endowed southern medical schools to follow, and he exhorted that "every effort should be made to secure [an] endowment specifically applicable to the medical department."[22] In 1913 when Flexner became Secretary of the Rockefeller Foundation's General Education Board (GEB), he played an active role in diverting large grants to Vanderbilt's Medical Department, fulfilling his quest to ensure that the institution had the resources to become the template for the region's medical schools.[23]

Flexner also supported Meharry's fight to survive to deliver physicians to the underserved black population in the South, noting that of the seven black medical schools in the country, only Meharry and Howard University's medical school in Washington, D.C., were capable of making "any contribution of value." He was aware that Meharry's resources were "slender" but carefully husbanded. In his report he stressed the "urgent need for improved clinical facilities—a hospital building and a well-equipped dispensary." He believed these acquisitions deserved liberal support" for a school he regarded "a most creditable institution.[24]

Flexner's assessment of the medical school situation in Tennessee was that there were too many substandard institutions in the state, all of which should be eliminated, and that

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[22] Flexner, 308-309.
[23] Brown, 165.
[24] Flexner, 309.

Vanderbilt's medical school had the potential of becoming a really quality medical school that "can do the work; that Vanderbilt occupies in Nashville the point of vantage; that, in the public interest, the field should be left to the institution best situated to handle it." He was concerned about enforcing higher entrance requirements and that "improved teaching should compensate student defects and that every effort should be made to secure endowment specifically applicable to the medical department." Flexner was clear in his resolve that the merged University of Nashville and the Tennessee Medical Department, now a united medical department of the University of Tennessee, "should abandon for the present the effort to develop at Nashville a school that it can neither control or support," but he added the reservation that the "time may come when there may be a call for the state university to enter the field. . . but that time is not now."[25]

Admitting "the whole field is strangely confused," Flexner was unaware of the intense successful lobbying effort of the Tennessee State legislature by the Medical Department of Vanderbilt University to preclude the maintenance of a state supported medical school in Nashville. That left the University of Tennessee's Medical Department available to merge with the proprietary College of Physicians and Surgeons (P&S) in Memphis, the host city for this reconfigured state entity. The merger-takeover was made more attractive as P&S delivered all its property, equipment, and goodwill to the new University of Tennessee College of Medicine while agreeing to retain the P&S faculty for five years and assuming its current indebtedness. Approximately one hundred thousand pounds of medical and hospital equipment from the Nashville school arrived in Memphis at Lindsley Hall on the campus of the merged Physicians

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[25] *Register, University of Tennessee* (1911-1912), Vol. 15, No. 1 (Knoxville: University of Tennessee Press), 1912.

and Surgeons in August 1911, and with great effort, classes commenced that fall as the University of Tennessee Medical Department.[26]

By the fall of 1912, a new four-story building (Eve Hall) built by the Department for $50,000 was ready for occupancy. Although the Memphis Hospital Medical College's attempt to join the merger was rejected by the University of Tennessee trustees because of its indebtedness of $135,000, it was subsequently allowed to join the three merged schools in 1913 after its debt was lowered to $50,000. The Lincoln University Medical Department in Knoxville which shuttered its doors in 1914, was able to transfer its students to the newly developed Memphis campus to continue their education and graduate, a move made possible by an arrangement approved by the AMA's CME. President Brown Ayers of the University of Tennessee acknowledged that he and the Board of Trustees were able to consolidate the four scattered medical schools to develop a state institution in Memphis while "leaving the entire field at Nashville open to Vanderbilt."[27] He somehow ignored the fact that Nashville would also be shared with the Meharry Medical College, one of two African American medical institutions functioning in the post-Flexner Report era. Both the University of Tennessee's Dental and Pharmacy Schools located in Nashville and Knoxville respectively, also relocated to Memphis in 1913. In 1926 the Memphis City Hospital Training School for Nurses also became a Division of the University of Tennessee College of Medicine (UTCOM), thus establishing the West Tennessee healthcare system as the responsibility of the University of Tennessee.[28]

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[26] James Edward Hammer III, *The University of Tennessee, Memphis 75th Anniversary-Medical Accomplishments 1986* (Memphis: University of Tennessee, Memphis, 1986)

[27] Dumas Malone: *Directory of American Biography* (New York: Charles Scribner's and Sons, 1935), 15: 313-314.

[28] Hammer III, 22, 26.

Just to the west of Memphis, across the Mississippi River lay the state of Arkansas and eighty miles further west was located the city of Little Rock (population 44,931), where the only two medical schools in the state were located, and which Mr. Flexner and his colleague from the AMA's CME, N.P. Colwell, inspected in November 1909. The state's population was almost 1.5 million inhabitants, and the number of practicing physicians was 2,535, for a ration of 1 physician for 582 citizens in the general population, which, in Flexner's opinion, was triple the amount necessary to support this state's population according to the "ideal" German demographics he so heavily relied upon. The Medical Department of the University of Arkansas, organized in 1879, bore no organic relationship to the state university in Fayetteville and was the older and larger of the proprietary institutions with 179 students, 81 percent from Arkansas. The crosstown competing medical school, the College of Physicians and Surgeons (P&S) founded in 1906, enrolled a little less than half the students (81) of its rival with the majority (59 percent) from in-state. Entrance requirements of both institutions were "nominal," and although both faculty sizes were similar in the mid-thirties, the newer facility boasted 25 professors versus the University of Arkansas' Medical Department's 18.[29]

Both medical schools operated substandard preclinical laboratory facilities, which were described as "wretched. . . meager. . . and disorderly," without the support of libraries, museums, charts, models, or the necessary illustrative paraphernalia associated with acceptable medical institutions. The clinical facilities of both schools were also found to be lacking and although the Medical Department of the University adjoined the City Hospital, its capacity was limited to thirty teaching beds of minimum teaching value, as "there are no ward visits" or exposure to

[29] Flexner, 187-88.

contagious diseases or obstetrical work. Post-mortem teaching conferences (like the "CPC," Clinicopathologic Conferences) were not mentioned in its education arsenal. The hospital contained a small dispensary, but attendance figures were not "procurable." It appears that the bulk of the students' clinical experience was confined to the amphitheater of the school building. Unfortunately, the College of P&S's education provided their students with an equally deficient clinical experience despite controlling an adjacent hospital. Demonstrations and/or surgical teaching was done in an amphitheater where "it is claimed that students assist," but no ward rounds were provided the students for post-operative follow-up and care or education. There were "occasional" clinics held at distant county and penitentiary hospitals, but only rare acute and obstetrical cases provided any clinical teaching, and contagious diseases and post-mortem conferences were not mentioned as a part of the students' clinical experience.[30]

Flexner concluded from his visit that "neither (school) has a single redeeming feature," and he was seemingly puzzled why the state university would even "permit its name to shelter one of them." Neither institution had adequate resources available for maintenance, relying only on tuition fees amounting to $14,100 at the Medical Department and half that amount at P&S, with no endowment or invested funds to finance the necessities required for a modern scientific medical education. Flexner's only recommendation for the possible rescue of an acceptable medical school for the state of Arkansas was for both substandard, proprietary institutions to merge and have the state university to obtain "possession of both schools and organize something better than either." By pursuing this strategy, the schools could maintain their clinical experience in Little Rock, in a population center that could support both the merged school and

[30] Ibid.

its teaching hospital. Against great odds, such a merger did occur, although the parent state university remained in Fayetteville. Parceling out the required physical plant and academic necessities, full accreditation was eventually achieved due to an incredible effort shared by the local, medical, and university communities in alliance with state and federal governmental agencies.[31]

Initially organized as a proprietary institution by a group of physicians in Little Rock in 1879 as the Medical Department of the Arkansas Industrial University, its relationship to the state university in Fayetteville was in name only. The upstart College of Physicians and Surgeons, also a proprietary institution, began operation in 1906, and challenged the primacy of the Medical Department, which hired a new and aggressive dean, James H. Linow. The following year he obtained the first full-time preclinical instructor followed by the acquisition of a registrar in 1910, at which time the medical school joined the Association of American Medical Colleges. The school adopted an entrance requirement of admitting only students with a four-year high school degree.[32] Although this change gave the institution "public approbation and academic respectability," enrollment declined from 171 to 106 due to the few legitimate high schools in Arkansas. Additional academic improvements were initiated, including extension of teaching sessions to eight months in each of four years and final exams given each year "in all branches taught during the year requiring a passing grade of 75 percent for advancement to the next class."[33] Both preclinical and hospital instruction improved although the school's failure to

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[31] Ibid.

[32] Minutes of the Faculty of the University of Arkansas Medical Department (hereafter UAMD) 83, 88, 90 UAMD Board Minutes, 96-97, both in Archives Division, Library of University of Arkansas, Medical Society (hereafter UAMS). Little Rock, Arkansas.

[33] Minutes of the Faculty of UAMD, 92, 106, 111; UAMD Board Minutes, 14, 38, 48.

raise the necessary funds ($30,000) to begin construction of a new teaching hospital remained a glaring deficit. There was no dependable cash flow to finance such projects, either through private philanthropy or from the state legislature.[34]

As expenses incurred by the Medical Department were rapidly rising trying to keep pace with the new demands of modern medical education, faculty member Morgan Smith, recently elected Secretary of the State Medical Society, pleaded the case that the state recognize the Medical Department as a full branch of the state university, which would enable it to access public funds. Predicated by a merger with Little Rock's College of Physicians and Surgeons and approved by the State Medical Society in 1909, the merger was passed reluctantly by the General Assembly and merged classes began in the Fall of 1911.[35] The preclinical classwork was assigned to the Fayetteville campus, and the clinical education relegated to the Little Rock hospitals. This arrangement was boosted by the influential *Arkansas Gazette,* which campaigned for the survival of an accredited medical school in the state. Flexner agreed with the consolidation, adding that the standard will be raised, "even at the cost of decimating the attendance for a few years."[36] Flexner's proviso proved correct, as the merged institution had a reduced combined enrollment of 142 students, of which only twenty-two were freshmen.

This reduction was responsible for a significant loss in revenues and triggered a boycott of the clinical faculty, virtually closing instruction for juniors and seniors. Student grievances were submitted to Dean Lenow in March 1912 and reported in the *Arkansas Gazette*, which prompted an investigation by the State Medical Society that sided with the protesting students.

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[34] W. David Baird, *Medical Education in Arkansas, 1879-1978* (Memphis: Memphis State University Press, 1979), 84-86.

[35] *Arkansas Gazette*, July 9, 1911.

[36] *Arkansas Gazette*, March 17, 1912.

The dean resigned and was replaced by Morgan Smith who would prove to be the "ideal dean." His initial action was to defer the transfer of the preclinical education to the Fayetteville campus while improving Little Rock's campus facilities by securing the old state house for preclinical classrooms and laboratories, a work-in-progress from 1912 through 1915.[37] The most important accomplishment for the survival of a medical school in Arkansas was the merger of the two proprietary institutions in Little Rock and having that institution become the responsibility of the state university and legislature. The success of this venture ultimately would be a function of its ability to adopt the necessary educational reforms of a fully accredited institution. This challenge would occupy this institution for the next three decades.

The acquisition and renovation of the old state house building into modern preclinical classrooms and laboratories and counting on the local newspapers, the *Arkansas Gazette* and *Arkansas Democrat* for additional support, the activist Dean Smith gave his annual Report of the Medical Department of the University of Arkansas to the Governor and Board of Trustees in 1914. This document outlined the school's needs for continued improvement and what he considered the state's responsibility. He reminded the assembled powers of the institution's proprietary past when the "withering spirit of commercialism had polluted the temples of learning" but now "the day of house cleaning was at hand." The medical school's alignment with the state university should succeed in raising the standards "to a point where graduates of accredited schools are able to enjoy uniform standing and preferred privileges." The only cash infusion from the General Assembly since the state became responsible for the medical school's

[37] *Arkansas Gazette*, November 4, 1912.

welfare in 1911, however, was $36,000 appropriated in 1913 and even with the addition of student tuitions was "hardly adequate" to fund the school's operations sufficiently.[38]

The Dean then approached the Governor and Board of the need for a State General Hospital, not only to supply the necessary teaching beds for the clinical students but also for the humanitarian needs for the state's poor who were unable to access healthcare when experiencing serious illness or injury. A state hospital would also provide training for nurses and post-graduate physicians to complement their education. Dean Smith fully researched such a project for the state to build a hospital in Little Rock with proximity to the medical school, but the state failed to fund the enterprise until the mid 1930s, long after the progressive Dean first proposed the undertaking.[39]

In addition, the Dean outlined the changing curriculum, the need for additional faculty and their department's requests that included the funding of salaries and equipment. In his report he also supported the laboratory's public health interventions and the reestablishment of the school of pharmacy. He then elaborated on the need for maintaining the medical school's successful Summer Course of Post Graduate Study for General Practitioners which extended over a month period and involved thirty physicians. The attendees were older physicians who were offered practical renewal courses in medicine, surgery, diseases of women and children, and laboratory advances. The Report concluded with a recapitulation of Appropriations Recommended for the Biennial Period Ending July 1, 1917.[40]

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[38] Dean Morgan Smith, *Report of the Dean of the Medical Department of the University of Arkansas to the Governor and Board of Trustees*, Publisher Unknown (1914): 1-3. Archives Division, Library of the University of Arkansas, Medical Society, Little Rock, Arkansas.

[39] Smith, 5-8.

[40] Smith, 9-17.

Despite the time and effort Dean Smith obviously spent trying to reverse the school's "B" rating, he was unsuccessful. The additional educational requirements of Latin, physics, English, geometry, and history had been "implicitly complied with," but this resulted in a loss of the total of matriculated students. He then requested better labs and equipment, full-time paid instructors, and better clinical facilities.[41]

Later as a stop-gap measure to provide additional teaching beds for the medical school, the Dean applied the unexpended, long-standing Isaac Folsom bequest to subsidize the construction of a clinical building adjacent to the old college. This four-story building named the Isaac Folsom Clinic, containing a free clinic with a laboratory and examining rooms, also included general and obstetrical wards, an x-ray laboratory, and ten private rooms for a total of 50 beds and opened in September 1917, and for the time-being allowed the institution to maintain its "A" rating. In doing this, however, the school abandoned clinical instruction for the next three years, until it could be reinstituted in 1922 with full accreditation and later obtained authorization of the General Assembly in 1925 to construct a new education building and teaching hospital. These projects were indefinitely postponed as funding collapsed. A reactionary agenda gripped the state and its General Assembly with the rebirth of the Ku Klux Klan, and the implementation of Sunday blue laws, prohibition, and the criminalization of teaching evolution in its schools.[42]

Dean Smith retired momentarily in 1923 as the medical school received a "B" rating, but he returned in less than a year to guide the institution back to its "A" status as he was able to obtain the requisite number of clinical beds and patients permitted by Little Rock's private

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[41] Smith. 4.
[42] Baird, 123.

hospitals (St. Vincent's, St. Luke's, and Baptist) to be shared for teaching purposes. A new City Hospital, eight years in the planning, was opened in March 1924, a five-story building of modern design with 125 beds, Dean Smith's "happy consummation of a long deferred hope" whose staff comprised members of the medical school's staff and made responsible for all admitted charity cases. Despite the medical school's recovery and a rapidly increasing enrollment of qualified students, the Dean faced criticism from state politicians who wanted to lower requirements for admission to get "their crowd in" but were rebuffed by Dean Smith's political allies.[43]

In the twilight of Morgan Smith's tenure as dean, he again pursued the construction of a state-funded general hospital noting the state's population of 1.7 million required an additional 6,700 hospital beds. He again approached the state agencies, the Little Rock Chamber of Commerce and the General Education Board noting Smith's friendship with Abraham Flexner, but the funds required for the project were not forthcoming. With the medical school slipping to a "B" rating in 1926, and the General Assembly decreasing its financial support of the institution, the dean retired in the spring of 1927. Especially galling to Dean Smith was the General Assembly appropriating $30,000 to host a Confederate soldier reunion after refusing to provide adequately for the medical school. His legacy was substantial, however, preserving the medical school in its struggle for survival.[44]

Frank Vinsonhaler, a progressive like his predecessor, was appointed Dean of the Medical School in July 1927, and guided the medical school through "troubled thirties" whose main mission was to maintain an "A" rating, full accreditation and an approved membership in the Association of American Medical Colleges. Despite poor, antiquated and decaying physical

[43] Baird, 134-135.
[44] Baird, 139-143.

facilities, the buildings were in a low state of repair and some a "menace to American standards of health." Controlling the requisite number of hospital beds (a minimum of 100, later increased to 200) was always problematical, being limited to only 50 beds at City Hospital. Instructional equipment was considered "meager" and the ratio of students to faculty was considered suboptimal. Despite these shortcomings, the quality of its graduates was remarkable with only a 2.6 percent failure rate vs. 6.3 percent for the national average, and the school maintained its "A" rating throughout the early decade.[45]

The General Assembly, known for its anti-Medical School sentiment, was less than generous with its appropriations for the institution, and even the state medical society seldom vigorously supported the school's initiatives to maintain their reputation and rating. The legislature also denied medical students' participation in their student loan fund, and it was rumored that University faculty in Fayetteville encouraged their better pre-med students to apply to the better medical institutions out-of-state. Even Dean Vinsonhaler lacked the involvement of the "hands-on" approach of his predecessor. Although Dean Vinsonhaler was at the helm during the Great Depression, his institution was fortunate to obtain PWA funding for major construction products including the major medical school building to include laboratories, clinics, research facilities, administrative offices and a library.[46] The Dean was also following directives of the AAMC to obtain resignations (or to dismiss) older faculty that had "not kept abreast" which created ill feelings with the newspapers, legislature, and the community.[47] Despite these interventions, the medical school was placed on "probation" in 1936, which was not lifted until

[45] Baird, 144-147.
[46] Baird, 151-155.
[47] Baird, 158-166.

1944. Dean Vinsonhaler retired in 1939, leaving a legacy of guiding the institution through the lean years, but not having the impact of Morgan Smith.

Virginia was another state where the merger and non-merger of medical schools played significant roles in the survival and reform of its medical institutions. In 1909 Virginia had 2,215 doctors taking care of a population slightly larger than two million, for a ratio of 1:918. At the time of Flexner's survey in February 1909, there were three medical schools in the state, two in Richmond (population 111,078) which included the Medical College of Virginia (MCV) and the University College of Medicine (UCM), and the third in Charlottesville (population 7,307), the University of Virginia Department of Medicine (UVa.).[48] The UCM was a proprietary (independent) institution financed by student fees, while MCV's financial resources came from student fees and an annual state appropriation. UVa's budget was met by "funds of the university" so, in effect, both UVa and MCV received funds appropriated by the state legislature. Entrance requirements at UVa consisted of a high school education with one year of college science courses while both MCV and UCM required "less than a four-year high school education." Attendance at UVa was 89 (53 percent from Virginia) and at UCM was 121 (63 percent from Virginia), while at MCV the attendance was 206, almost equal to the other two schools combined. The teaching staffs at MCV numbered 61 of whom 16 were professors, and at UCM there were 74 teachers of whom 22 were professor grade. UVa's teaching staff was limited to 31 of whom 12 were professors, and laboratory branches included 8 instructors, all of whom were full-time.[49]

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[48] Flexner, 314-15.
[49] Ibid.

Laboratory facilities at MCV were described as "ordinary" except for the anatomy dissecting room, which was in poor condition. There was only a "fair museum," but the library achieved high marks with a full-time librarian. The clinical facilities were considered inadequate with only forty teaching beds at nearby Memorial Hospital, although supplementary teaching beds were provided at City Hospital, and the dispensary was of high quality with fair attendance.[50] UCM's clinical facilities were also considered inadequate by Flexner and although the school adjoined its own hospital, there were less than fifty teaching beds available to students although supplementary beds were provided "elsewhere." Its preclinical laboratories were recently destroyed by fire and were replaced by temporary labs.[51]

Both UVa's preclinical labs and their University Hospital received glowing assessments from Flexner. He was impressed by the medical school's recent transition from a "didactic school" to one that has been "revolutionized" with "good teaching laboratories in all necessary branches, with increased provision for research," noting the modern equipment and a well-trained, enthusiastic staff. He did note, however, that the medical school's preclinical teaching building and library were suboptimal and required upgrading. The clinical facility of its adjacent University Hospital controlled one hundred beds of which eighty were used for teaching. Flexner concluded that although the "material has not yet reached proper proportions, it is increasing and is skillfully and effectively used to train the student body in the technique and methods of scientific medicine."[52]

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[50] Flexner, 215.
[51] Flexner, 315-316.
[52] Flexner, 314-316.

Flexner seemed pleasantly surprised by the rapidly improving quality of the Medical Department of UVa, and although he was cognizant of the "limitations of Charlottesville," he was ensured by its administration that it was pursuing measures "to surmount them," especially the need for larger clinics in internal medicine and obstetrics. The possibility of supporting a remote department (for example in Norfolk), where there would be abundant clinical material, would be both difficult and expensive, but with the proper funding Flexner felt such a clinic could be developed for both the surrounding counties and as a referral center for outlying towns and small cities.[53] Flexner was also concerned about the possibility of creating a consolidated medical school in the state capital of Richmond, especially in the wake of the destructive fire at the UCM.

Flexner felt that both of Richmond's independent institutions were weak across the board, with deficits in their preclinical laboratories and inadequate exposure for the students' clinical experience. Their potential for survival as separate independent institutions were remote according to Flexner's calculations, and with the recent destructive fire at UCM having a negative impact on the institution, the Richmond schools decided in favor of a merger, which was completed in 1913 to become an enlarged MCV.[54]

Since MCV received partial state funding, in 1914 a movement was afoot in the state legislature to consolidate all the state's medical education under the auspices of the University of Virginia's Medical Department but to relocate to Richmond, the state's largest city. This initial proposal was negatively received by UVa's Board, medical personnel, and alumni, and the University's Board of Visitors proceeded with their plans to further the development of the

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[53] Flexner, 316.

[54] Virginius Dabney, *V.C.U.: A Sequential History* (Charlottesville: University of Virginia Press, 1987) 44-52.

medical school in Charlottesville with its ambitious building program, recently included the addition to its University Hospital, the Steele Wing, in 1916. This construction was made possible by a $100,000 donation by a wealthy non-medical school alumnus Charles Steele and supplemented by stipends provided by the City of Charlottesville and Albemarle County.[55]

America's entry in World War I, with its attendant impact on medical school education issues, froze any existing support for the Richmond consolidated proposal. With the "return to normalcy" in 1921, Virginia Governor Westmoreland Davis and the General Assembly created the Commission on Medical Education to revisit the issue. Flexner again noted that the state was supporting two medical schools, and perhaps by combining them, "a strong medical school of the better type" would result and be both fiscally responsible and qualitatively desirable. "In what is now recognized as the medical center concept, the overall project would integrate the schools of dentistry, pharmacology, and postgraduate medicine with the state medical school to locate to Richmond under one roof." Both institutions, the UVa and MCV, had achieved the coveted class "A" rating from the AMA's CME, and it was the intent of the Commission to maintain this level of quality no matter where the proposed consolidation found its home.[56]

The Commission unanimously approved the melding of the institutions but split five to four in favor of the school's location in Richmond, "where it could be done at less original expense and with greater promise of future growth and development." Noting that medical education had transitioned from a purely business enterprise to one that depended on a combination of state appropriations and philanthropic largesse, the city of Richmond's wealth

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[55] Sarah Mathews, R.R.L., *The University of Virginia Hospital: Its First Fifty Years* (Charlottesville: Publisher Unknown, 1925), 33-34. Historical Collections and Services, Claude Moore Health Sciences Library, Charlottesville, Virginia.

[56] Mathews, 37, 52.

and proven generosity to MCV were important factors in the Commission's recommendation. It also argued that "conflicting interests" would be muted since the relocated conjoined medical schools would continue to function as a department of the University of Virginia controlled by the same rector and Board of Visitors. The Commission also reassured Charlottesville residents that although the University Hospital in Charlottesville would not be the primary teaching hospital under this new arrangement, it would continue to render care as before, meeting the capacity of the University and the surrounding community while maintaining the previous level of state funding. The Commission further confirmed its preference to locate the merged medical schools in the state's largest city and capital and that Richmond could offer big city cultural and material benefits to a specialized group "which cannot be found in so small a place as Charlottesville."[57]

Proponents of maintaining the medical school and teaching hospital with the University in Charlottesville with proximity to the main campus were quick in their resistance to the Commission's game plan. Initially these advocates made their legislators aware that the political climate in Richmond was not conducive to organizing a quality medical institution in a major city, reflecting that "all the schools in small places are class "A," and the class "B" and "C" schools are in large cities." Their critics also argued that the improved facilities that the Charlottesville campus developed since the opening of the University Hospital in 1901 had closely adhered to CME guidelines, and to recreate these in Richmond would be costly and result in a scattered, non-integrated complex.

[57] Mathews, 36-43.

Also troubling for the opponents of merging and moving the medical school to Richmond was the vote by the State Medical Society in October 1921, resulting in 176 to 98 favoring the relocation of UVa's Medical Department to Richmond. An analysis of the vote, however, by the pro-Charlottesville group that eliminated alumni and the locality variables disputed both the merger and relocation by a two to one margin. An aroused alumni also became involved noting that appropriations funded less than one third of the university's expenses that came from the state treasury. The contributor continued that the relocation faction violated "a breach of trust and these alumni represented a "hopeless minority."[58]

University Dean W.M. Thornton summarized the position to keep the medical school intact in Charlottesville with the main campus for both emotional and practical considerations. He touted the University's unique honor system and the multidisciplinary learning environment for students and faculty alike and claimed that these positive features would be "scattered and lost in the wider life of a great city." He also acknowledged the high cost of living in Richmond and the suboptimal facilities and properties offered by the city to house the consolidated school while the improved medical complex with its up-to-date equipment in Charlottesville could not reasonably be repurposed and should be recognized as a significant loss. There also existed the issue of a larger medical school in Richmond being able to graduate more doctors to fill the health needs of rural communities. The Dean noted that where newly minted physicians practiced was determined more by the socioeconomic factors a community offered than where you obtained your medical degree.[59] An additional consideration for maintaining the medical

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[58] "The Crisis at Richmond: Life of the Medical School is at Stake," *University of Virginia Alumni News* (Charlottesville: General Alumni Association of the University of Virginia, 1922), 387-388.

[59] Mathews, 42.

school in Charlottesville was the opening of the Blue Ridge Tuberculosis Sanitarium within a few miles from the main campus, which gave the medical students at the University a unique clinical experience.

Retention of the medical school in Charlottesville received unexpected support from such varied proponents as the *Richmond Times Dispatch*, the *New York Sun*, the Mayo Clinic Foundation, and CME Secretary N.P. Colwell. Another influential resource was Abraham Flexner himself, who felt that political pressure and economics were the prime considerations of the Richmond partisans, who undervalued the heightened educational environment provided by an intact university. He concluded that "a serviceable institution can be undoubtedly created elsewhere" but feared it would "be upon a somewhat lower scientific and educational plan." With significant aid from by university officials, the lobbying group Association for the Retention of the Medical School at the University gathered additional support from exemplary state institutions including the Universities of Iowa, Michigan, and Wisconsin that influenced the Virginia Senate in late February 1922 to vote against the removal of UVa's Medical Department to Richmond.[60] The lobbying group received a letter from Woodrow Wilson afterwards confirming his approval and gratification of the Senate's decision.

Perhaps the most successful merger strategy among southern medical schools occurred in Georgia, which resulted in the development of not only an acceptable medical school but one that morphed into a prestigious medical center in the southeast and became identified as a pathfinder institution for a region recognized for its substandard medical establishments. Flexner visited Georgia's five medical schools in the winter of 1909 and found a state of 2,557,412

[60] Mathews, 43.

citizens with 2,887 physicians for a ratio of 1 doctor for every 886 persons. Four of these institutions were in Atlanta, the state's largest city (population 118,243), and the fifth in Augusta (population 45,582), home to the Medical College of Georgia since its founding in 1828. All these schools were privately owned, proprietary institutions, although the Augusta institution was recognized "nominally" as the medical department of the state university in Athens. However, it contained its own separate board, and the University of Georgia bore "no liability for its debts or expenses."[61]

In his assessment of the Georgia medical schools following his survey visit, Flexner had little encouraging to report about any of the institutions, two of which were eclectic schools, the Georgia College of Eclectic Medicine and Surgery with sixty-six students, and the Hospital Medical College with forty-three students. Both schools had nominal entrance requirements for incoming students and teaching staffs of twenty and sixteen respectively, most of whom were described as "professors." Resources available for maintenance averaged $5,000 obtained from student fees. Laboratory facilities for students were either lacking or gross "filthy conditions, has few equals. . . an anatomy room with a single cadaver," "indescribably foul," and any equipment "worthy the name."[62]

Clinical facilities were either non-existent or minimal. The Medical College of Georgia (MCG) entrance requirements were also nominal for its ninety-nine students, most of whom were Georgia residents, of which forty-four held scholarships awarded by their home counties or requested by their state congressmen. For the clinical experience the MCG used the adjoining city hospital of one hundred beds, of which less than half were filled the day of the inspection. In

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[61] Flexner, 203-206.
[62] Flexner, 204-205.

addition, no obstetrical work was provided for these students. The MCG also used the Lamar Hospital for the students' clinical exposure, but it was located more than a mile away from the campus. Although this hospital provided an obstetrics rotation, it was poorly attended by the clinical students. A dispensary was located at the City Hospital but "no records were kept."[63]

The remaining two medical schools in Atlanta represented an improvement over the eclectic institutions but were still considered substandard by Flexner. The Atlanta College of Physicians and Surgeons (ACPS) claimed 286 students in attendance and contained creditable preclinical lab facilities, "perhaps the best equipped of all the schools of its grade. . . good buildings containing a good dissecting room, a fairly equipped laboratory for physiology and physiological chemistry, one of the same character for histology and pathology, and a separate laboratory, well equipped for bacteriology." These superior facilities were offset by the fact that there were no full-time instructors in the disciplines, and such good equipment could not be optimally utilized. Tuition fees totaling $28,000 were available for maintenance, but the medical school claimed no endowment.[64] The institution had a teaching staff of fifty-one, and of its twenty professors, none were full-time. Its clinical facilities were limited to a modern hospital with one hundred beds but remotely located. There were also a few rooms serving as a dispensary although it had a small attendance. The ACPS also used the city's Grady Hospital for additional teaching beds, as the clinical material was abundant, although an obstetrics rotation was denied to the clinical student externs. Flexner was somewhat disappointed that the students

[63] Flexner, 206.
[64] Flexner, 203-204.

did not take full advantage of the wealth of clinical material at Grady Hospital, as "attendance in the wards is very irregular."[65]

The Atlanta School of Medicine's (ASM) laboratory facilities were slight compared to the ACPS but boasted some uncommon features such as an excellent projectoscopy, an x-ray machine, and a "useful library." The clinical facilities for its 230 students were minimal, comprising two wards of 20 beds although they were "fairly well used." Although additional teaching beds were made available at Grady Hospital, the students did not conscientiously attend their rotations at this far away hospital. Maintenance fees and faculty size were like that of the ACPS. Flexner was critical of the overall faculty situation of Georgia's medical schools. Although there were plenty of "professors," none were full-time or conducted research.[66]

In Flexner's "General Considerations" section, he was confident enough to state that the solutions in Georgia were "so simple that there is no room for difference of opinion as to what ought to be done." Aware that according to his demographic data the state had an excess of physicians to citizen ratio, he believed that both eclectic institutions were "utterly incapable of training doctors [and] should be summarily suppressed." He described the Augusta situation as hopeless with "no possibility of developing there a medical school controlled by the university," with its unpropitious site and distance from the state university in Athens, ninety-four miles distant. He concluded that the Augusta school was "low-grade institution whose entrance requirements "are far below that of an academic department. It should snap the tender thread; the medical school will not long survive amputation."[67] He felt there was no hope for the most

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[65] Ibid.
[66] Flexner, 203-204.
[67] Flexner, 206.

substantial Atlanta medical schools, the ASM and the ACPS, merging to become the medical department of the University of Georgia in Athens whose proximity to the growth city of Atlanta and state capital was reasonable (67 miles). A merger would have ensured Atlanta's large city hospitals could have supplied the critical number of teaching beds necessary for the students' clinical experience. Also, by becoming an organic department of the state university, in addition to funding voted by the legislature, the entrance requirements did not need to be compromised for the benefit of subpar students who could pay the exorbitant tuition fees charged by proprietary schools.[68]

Flexner's vision of Georgia's medical schools' future was fairly accurate, as the two eclectic institutions closed and the ASM and ACPS consolidated in 1913 to become the merged Atlanta School of Medicine (ASM). What he could not anticipate, however, was the merged ASM aligning itself with the newly organized Emory University which was completing its relocation from Oxford, Georgia (where it was Emory College) to Atlanta in 1915.[69] As the medical school became the third department of Emory University (along with the College and School of Theology in 1916), Asa Candler, the CEO of Coca Cola and philanthropist, donated $250,000 for the medical school's endowment. He also became financially responsible for the construction of the anatomy and physiology labs on the new campus at Druid Hills, in time for the 1917 school year. The medical school had already completed the transferal of its properties

[68] Flexner, 206-207.

[69] Kenneth M. Ludmerer, *Learning to Heal: The Development of American Medical Education* (New York: Basic Books, Inc., Publishers, 1985), 244; Gary S. Hauk and Sally Wolff King, *Where Courageous Enquiry Leads: The Emerging Life of Emory University* (Atlanta: Emory University Press, 2010), 396.

near Grady Hospital in 1915 that the ASM had been using for its teaching beds for its clinical students and house officers.[70]

Asa Candler's overall philanthropy of $1,250,000 also accounted for the major construction of a 275 bed Emory University Hospital on the new campus site, which was ready for occupancy in 1922 for the benefit of medical students and faculty, and provided healthcare for mainly private white patients.[71] Despite Asa Candler's generosity, the medical school experienced financial difficulties in the mid-1920s but was rescued by Rockefeller's GEB with a matching fund grant of $500,000, which kept the fledgling institution debt free for the remainder of the decade. The new University Hospital proved to be a suboptimal teaching facility for providing teaching beds for the students, a fact compensated by the required beds furnished by the J.J. Gray Clinic (completed in 1917) and the "black" wards at the city's Grady Hospital.[72]

The Calhoun Medical Library was gifted to the medical school in 1925 by the family of a retired Professor of Ophthalmology, which also provided $32,000 for its endowment. The same year the transition medical school dean W.S. Elkin resigned and was replaced by Dr. Russell H. Oppenheimer. The new dean's impact on the institution was almost immediate with the hiring of full-time faculty who were both adept at teaching and research. At the same time the quality of incoming medical students continued to improve. The clinical experience for students was enhanced by the opening of the white wards at Grady Hospital to Emory students in 1931.[73]

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[70] Thomas H. English, *Emory University, 1915-1965: A Semicentennial History* (Atlanta: Emory University Press, 1966), 20.

[71] Hauk and King, 396-97.

[72] English, 149.

[73] Letter from Professor of Medicine Cyrus C. Sturgis, University of Michigan to Dean Oppenheimer at Emory University, November 10, 1931. Box 4, Collection no. 268. Emory University Archives, Rose Library. Atlanta, Georgia.

An important addition in 1937 to the Emory University Hospital was the Robert Winship Clinic for the study and treatment of neoplastic diseases. Grants from the Joseph B. Whitehead Foundation and by local businessman Robert Woodruff created endowed chairs in medicine and surgery in the late 1930s. Additional gifts of $550,000 from the Whitehead Foundation and $1.1 million from the sole female member of Emory's Board of Trustees in 1941 funded the construction of the Conkey Pate Whitehead Surgical Pavilion, although wartime priorities delayed its completion until 1946. A delayed acquisition, the Crawford W. Long Hospital, deeded to the medical school in 1940 by owner Dr. Luther C. Fisher, further added clinical teaching beds for a growing student attendance.[74] Students also benefitted from the school's affiliation with the city's Henrietta Egleston Memorial Pediatric Hospital, which imparted unique exposure to pediatric illnesses taught by specialists in children's diseases.[75]

As early as 1922, Emory, under Dean Elkin, made significant strides in establishing itself as a leader among southern medical schools, in competition with Vanderbilt and Tulane as "pathfinder institutions." The dean reflected that Emory's medical school had "in three years opened, the now University Hospital, published a Bulletin of the medical school, opened a summer session for graduates, perfected our organization, improved ourselves, and made our school and our city the overwhelming center of the southeast. Continuing organization is the most powerful weapon in our hands, with a better location and larger population than Nashville." Despite this ebullient assessment, he bemoaned the fact of Emory's faculty poor research output: "seventy five percent of our teaching staff had not averaged a paper a year for the past ten years

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[74] English, 150-151.

[75] Letter from Dean Russell H. Oppenheimer to Board of Trustees, Henrietta Memorial Hospital, October 28, 1930. Box 4, Collection no. 268. Emory University Archives, Rose Library. Atlanta, Georgia.

and [we have] subpar teaching facilities. . . we have no museum worthy the name. . . and. . . no library." He felt these deficiencies were due to a "lack of finances which will come in the end." He pointed out that Vanderbilt was able to raise money from national philanthropic foundations and from the Nashville community at large, which accounted for its modern medical school building integrated with its own hospital, laboratories, and classrooms, all made possible by their generous endowment. He felt reassured that Emory's medical school had the potential of being in a similar situation with the generosity of the Candler family, active alumni, and a civic pride that encouraged local participation for the welfare of a developing regional medical center.[76]

A particularly contentious issue arose in Atlanta just prior to the nation's entry into World War II, which affected Emory's medical school, Grady Hospital, and the city of Atlanta. Oglethorpe University, located in Atlanta, created a medical department, citing the need for what its administration perceived as a doctor shortage in rural Georgia. The school began classes on its campus in the summer of 1941 but possessed marginal preclinical laboratories and minimal facilities for their students who were mainly selected for their ability to pay the high tuition fees charged by the university.[77] It had no endowment. The school's president, John L Jacobs, requested that Grady Hospital's Board of Trustees provide teaching and clinical privileges for its faculty and students on the white wards of the hospital.[78] The upstart institution's dean, Dr. Frank Eskridge, stated that the school's policy was to ignore the accreditation process, but after being notified by the State Board of Medical Examiners (SBME) that Oglethorpe's medical

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[76] Dean W.S. Elkins, "Constructive Suggestions for the Consideration of the Faculty," January 12, 1922. Box 4, Collection no. 268. Emory University Archives, Rose Library. Atlanta, Georgia.

[77] English, 54.

[78] John L. Jacobs, Letter to the Board of Trustees, Grady Hospital, November 17, 1941. Item No. 25, Box 4, Collection no. 268. Emory University Archives, Rose Library. Atlanta, Georgia.

students, upon graduation, would not be eligible for examination and licensure from an unaccredited institution, the dean reversed himself.[79]

Emory's medical school Dean Oppenheimer was vigorously opposed to sharing Grady's teaching beds with this unaccredited institution, as Emory had developed a twenty-five-year partnership with the hospital and had invested over a million dollars in its staff and research projects, accounting for its enviable national reputation among teaching hospitals. The hospital board agreed with Emory, and the SBME refused Oglethorpe's petition. After legal wrangling and the threat of a legislative investigation, Dean Eskridge resigned and was succeeded by Dr. E.D. Shanks who agreed to a survey by the AMA's CME, which denied accreditation to the fledgling institution on the basis of (1) unqualified students, (2) insufficient financing, (3) serious deficiencies in its faculty and facilities, (4) work accomplished in the preclinical years that was "far below standard," and (5) "deficiencies of basic importance" requiring administration change. The school subsequently withdrew from the field of medical education in February 1944.[80]

The survival of the southern medical schools was confirmation that they met the criteria of reform as developed by the AMA's CME, the AAMC, and the State Board of Medical Examiners. If these criteria did not meet the expectations of the examiners, the surveyed institution was susceptible of failing. Two of the south's venerable medical schools, the Medical College of Georgia and the Medical College of the State of South Carolina (MCSC), found

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[79] English, 54; A Statement by the President of Emory University (Dr. Goodrich White) to a Joint Meeting of the Faculties, Members of the Board of Trustees, and Officers of the Alumni Association, November 23, 1943. Box 4, Collection no. 268. Emory University Archives, Rose Library. Atlanta, Georgia.

[80] Article from Emory Alumnus, "Emory Defends. . . High Medical Standards," November 1943. Item No. 17, Box 4, Collection no. 268. Emory University Archives, Rose Library. Atlanta, Georgia.

themselves threatened with extinction following the release of *Bulletin No. 4* in 1910 but maintained their viability by employing similar survival strategies. Despite the names of the institutions, both founded in the 1820s, they were proprietary schools with no organic connection with either of their state universities.

When Abraham Flexner visited the Medical College of Georgia (MCG) in February 1909, he observed that "the Augusta situation is hopeless. . . there is no possibility of developing there a medical school controlled by the university," and he urged the state university in Athens to no "longer permit its name to be exploited by a low-grade institution." The institution's 1908-1909 *Bulletin* painted a much different, very upbeat picture of the situation in Augusta that "the faculty had recently been recognized and enlarged. . . the curriculum extended, and the laboratory and clinical facilities have been greatly increased." The writer concluded that opportunity provided by the MCG was "unexcelled, if equaled, by any other college in this section."[81] Even before the Flexner Report was publicly released in late 1910, the medical school's faculty was urged by William C. Lyle, the chair of chemistry who recently attended a meeting of the southern medical schools in the fall of 1909, to have the MCG resign from the Federation of Southern Medical Schools. He advocated strongly that the MCG, instead, join the Association of American Medical Colleges (AAMC) that was in partnership with the AMA in their quest to improve the quality of medical education. Prodded by Professor Lyle, changes were begun at the MCG, including an improved curriculum, faculty governance, and a refitting

[81] Bulletin of the University of Georgia School of Medicine, 8 no. 10. Announcement for the 1908-1909 session, 7. Historical Collections and Archives, Greenblatt Library. Augusta, Georgia.

of equipment for the physiological lab, all of which provided a head start in anticipation of the Flexner Report.[82]

Despite these presurvey measures, the release of the Flexner Report's findings sent shockwaves through the institution and community. A "defeatist element" was prepared to shutter the MCG, but a larger cohort was determined to meet the challenges necessary to maintain an improved medical institution as a valid department of the state-run University of Georgia, but at its historical location in Augusta dating back to 1828.[83] The Chief of Surgery and Surgical Pathology, Dr. William H. Doughtry, was elected as the new dean of the MCG in May 1910, and soon after, the curriculum changes suggested previously by Dr. Lyle were adopted. Most importantly among these were the reorganization of lecture courses to be given in a logical sequence and delivered by the professor or his newly hired assistants.[84] In the fall semester of 1911 new clinical staff were hired in dermatology and obstetrics, a Free Midwifery Service became operational, and a new clinic dispensary was approved. The new faculty hires and building projects were made possible with financial support from the community and alumni in the quest of the MCG becoming a full-fledged department of the University of Georgia in Athens. The community leadership and MCG staff realized that the survival of the medical school was crucial for the city of Augusta and was dependent on the institution's ability to meet the reform criteria set by the accreditation agencies to obtain the coveted "A" rating from the survey inspections. The city government, in concert with the Chamber of Commerce, and citizen

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[82] Phinizy Spalding, *The History of the Medical College of Georgia* (Athens: The University of Georgia Press 1987), 110; Morris Fishbein, *The History of the American Medical Association 1847-1947* (Philadelphia: W.B. Saunders, 1947).

[83] G. Lombard Kelly, "The Evolution of a Medical School," *Journal of the Association of Georgia* 18 no.1 (January 1929). 1-6. Historical Collections and Archives, Greenblatt Library. Augusta, Georgia.

[84] Spalding, 120.

philanthropy provided the necessary financial and psychological support to keep the institution afloat.[85]

Realizing the MCG required a building with modern classrooms and preclinical laboratories, local community leaders raised the necessary funds for the medical school to relocate to the Augusta Orphan Asylum, renaming it the Tuttle-Newton Building. This event coincided with Augusta's City Council and the medical school administration successfully lobbying the state legislature in the summer of 1911 to officially become the Medical Department of the University of Georgia. Curiously, neither of the Atlanta medical schools that later merged seriously challenged the Augusta institution's effort to become the state's responsibility as a department of the state university. The new governance of the MCG comprised a board of directors of nine members responsible for running the school, six were appointed by the governor, but subordinate to the University trustees.[86]

The next challenge for the MCG was to build a new city hospital that would be controlled by the medical school and serve as their teaching hospital. This building became a rush-priority following the destructive fire at Lamar Hospital in 1911, which virtually deprived the black population of Augusta of a hospital facility and the medical school of valuable teaching beds. On land adjacent to the Tuttle-Newton Building and with funding provided by a bond issue, a renamed 275-bed University Hospital was ready for occupancy in June 1915. An appropriation by the state and a "subscription fund drive" by the city raised funds for the necessary hospital equipment. Control of the hospital was given to the medical college directors, and the Augusta

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[85] Phinizy Spalding, *The History of the Medical College of Georgia* (Athens: The University of Georgia Press, 1987), 120-121.

[86] *Augusta Chronicle*, 25 June 1912.

City Council appropriated $5,000 per month for hospital maintenance expenses.[87] The University of Georgia, with the state's financial backing, finally took the "long neglected fiscal responsibility for the training of their own physicians."[88]

In addition to an adequate number of teaching beds in the new University Hospital, the preclinical coursework and facilities were commensurate with the better "A" rated institutions. By January 1918 the new entrance requirements demanded two years of college tilted heavily in the sciences, even though this triggered a slight drop in enrollment. This was made worse by America's entry in World War I. These events caused a further drop in the freshman class of 1918 to fifteen students.[89] This temporary decrease in enrollment helped the medical college to gradually build its pediatric program following the acquisition of Wilhenford Children's Hospital, which was near University Hospital. Tapping into matching grants from the Rockefeller and Carnegie Foundations, Dean Doughtry was able to hire full-time faculty after the Johns Hopkins's model, filling positions in both the preclinical and clinical departments. These grants were matched by funds raised by the community, city council and state legislature and filled the positions of department heads of surgery, medicine, anatomy, bacteriology, and obstetrics.[90] The dean was able to begin a resident physician program between 1919 and 1922 and reflected that the 1922-23 academic year was "the most satisfactory session that we have ever had." The recent faculty acquisitions made possible an increase in attendance to 102 students for 1922-23 and the beginning of a research program for selected full-timers.[91]

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[87] Spalding, 124-128.

[88] Robert P. Hudson, "Abraham Flexner in Perspective: American Medical Education, 1865-1910," *Bulletin of the History of Medicine* 46 (November-December 1972): 561.

[89] Spalding, 130-132.

[90] *Augusta Chronicle*, 17 October 1921.

[91] Spalding, 133-134.

New infrastructure projects were also underway, including a new laboratory facility for students and a modern outpatient clinic to replace the old facility in the basement of the Newton Building. The medical school received a jolt when Dean Doughtry died suddenly in 1923 and was replaced by Dr. William H. Goodrich, who soon faced multiple challenges involving infrastructure, finances, and an growing student body.[92] An investigation by the CME in 1924 identified areas for improvement triggered by postwar increased enrollment, which included the need for a new clinical building, additional faculty hires, curriculum modifications, and a dormitory for one hundred nurses. The community and state legislature could not adequately fund these projects, a shortfall that could be traced to the loss of state tax revenues and belt-tightening local businesses due to boll weevil blight of the cotton crop and its impact on the economy of a state forty-eighth in funding public education.[93]

An ominous sign that the MCG was experiencing difficulties was the developing friction among the full and part-time clinical faculty involving issues of compensation, governance, and the priorities of certain infrastructure projects. A Centennial Memorial Fund was started for these projects, but the funds collected were inadequate and state appropriations were nonexistent.[94] As the MCG entered the Great Depression inadequately funded, Dean Goodrich lamented, "The whole realm of medical education is in a state of flux."[95]

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[92] Spalding, 135.

[93] Minutes of the Board of Directors, Annual Report to the Dean, 1925; Charles Reagan Wilson and William R. Ferris, coeditors. *Encyclopedia of Southern Culture* (Chapel Hill: UNC Press, 1989), 32. Historical Collections and Archives. Greenblatt Library, Augusta, Georgia.

[94] Joseph Lewis and Louis Taylor Ellison, *The Medical College of Georgia 1829-1963: Chronicle of an Institution* (Athens: Georgia Health Sciences, 2011), 217; Spalding, 142.

[95] Ibid.

The situation continued to deteriorate and Fred Zapffe, AAMC Secretary, was invited by the MCG Board for his evaluation and possible solutions, as the MCG ranking and accreditation was in jeopardy. Quickly sizing up the situation, Zapffe initially found fault with the state university system for failing to take greater responsibility in obtaining the necessary state funds for so integral an institution. After identifying specific needs in the school's operation, he suggested a more active dean who would be willing to be an educator, organizer, administrator, and diplomat. He also recommended the creation of an advisory committee to monitor the needs of the faculty; subsequently a highly qualified academician and researcher, Dr. William Lorenzo Moss, who unfortunately lacked the skills of a diplomat, was hired as the new dean.[96]

His abrasive style made worse by the exigencies of a poorly resourced state entering the dark years of the Great Depression and his limited options in solving the school's fiscal and educational problems made for a downhill slide that placed the institution's survival in question. The new dean had to deal with difficult issues involving faculty and staff, pay cuts, control of the University Hospital, the funding of the non-revenue departments of Public Health and Preventative Medicine.[97] Further reductions in state appropriations led to a request by Georgia's University System to have the AMA's CME inspect the institution's potential to survive. Completed in April 1933, the negative evaluation influenced the State Board of Regents to recommend the elimination of the MCG.[98]

Both the community of Augusta and the medical school's personnel were shocked and dismayed by the state's abandonment of the institution and mobilized the city to "fight for the

[96] Spalding, 149-150.
[97] Spalding, 151-157.
[98] Spalding, 157.

retention of our medical college." They began the appeal process at the state capital to reverse the board's decision. Local politicians, the newspaper, and civic service organizations, together with the medical students, lobbied Governor Eugene Talmadge, the legislature, and Henry Spaulding, Chairman of the Board of Regents, to reverse their decision.[99] With the assistance of the AMA's CME, the Board listed the benchmarks that the MCG needed to reestablish their relationship with the state: control of University Hospital, removal of the city council's oversight role with the MCG, the city's assistance to the state for the hospital's maintenance, specific shortcomings with the outpatient clinic be corrected, the public resources be better organized, only in-state students be considered for admission, and the specific approval of the city and county (Richmond). With renewed pressure by the governor, the *Savannah Evening Press*, and the new Chancellor of the state's University System, Philip Weltner (an Augusta native), the board reversed itself. In June 1933 the CME voted to maintain the institution on the approval list for another year, accompanied by its name change to the University of Georgia School of Medicine (UGSM).[100]

Following the medical school's provisional reinstatement, the priority project for additional clinical beds, including a special ward for contagious diseases was undertaken. This effort was funded by a $25,000 grant from the Public Works Administration (PWA), matched by the community and assisted by the local *Chronicle*. Dean Moss's governance style, however, continued to be problematic, and the board accepted his resignation in 1935 in favor of vice-dean George Lombard Kelly. The new dean secured the completion of the new outpatient wing on

[99] *Augusta Chronicle*, 17 April 1933.
[100] Spalding, 160-162.

time, as well as the hiring of effective full-time faculty, but he also focused on the medical school's probationary status and a return to an "A" rating.[101]

Dean Moss was successful in appropriating additional state and federal (PWA) funds for the construction of the Dugas Building (for preclinical sciences), which was completed in 1937, and procuring state funds for the Murphy Building (for bacteriology and pathology labs), which opened for classes in the fall of 1939. Kelly's efforts were responsible for the UGSM receiving probationary status from the CME in mid-1936, which was earlier than expected.[102] Later that year the CME and AAMC's guidelines required three years of college for admission, which they meticulously followed, and placed a new emphasis on applicants to take courses in the humanities to better prepare them for balanced life interests. The institution's membership in the AAMC, following an inspection survey by Secretary Zapffe, was successful in removing its probationary status, and the UGSM was restored to the CME's approved list shortly thereafter.[103]

Despite a racist governor (Eugene Talmadge) and an extremely reactionary senator (Walter George), the progressive Roosevelt held a "soft spot" for conservative Georgia (perhaps because of his polio treatments at Warm Springs), and his administration's New Deal programs funneled generous funds into the state during the Great Depression that benefitted the state's medical school. Dean Kelly was able to add new departments in neuropsychiatry, tuberculosis, and anesthesiology in 1937, and a reorganization measure united the departments of gynecology and obstetrics in 1936. In late 1941 funds procured from the state legislature allowed the medical school to hire additional faculty and provide new infrastructure allowing the medical school to

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[101] Spalding, 163; *Augusta Chronicle*, 18 February 1934.

[102] Spalding, 168.

[103] Ibid; *Augusta Chronicle*, 15, 16 February 1937.

increase enrollment in time for the country's entry to World War II. The ability to implement the guidelines necessary for medical schools to reform their educational capabilities were implicit for their survival as institutions. The pathway chosen by the MCG in becoming an organic department of the state's under-resourced university systems was risky but successful due to a supportive community and the focused efforts of talented administrators and academicians.

Other medical schools elected the portal of merged institutions to eventually being swallowed by state or municipal universities, and the case of merged medical schools in becoming an organic department of a private university was the case for Emory University's School of Medicine. Again these merged entities were successful (survived) due to determined administrators, community organizations, and, in the case of Emory University School of Medicine, a private medical school supported by a wealthy benefactor.

Abraham Flexner visited MUSC in February 1909, an independent institution located in Charleston (population 56,659). The state's population was 510,566 and contained 1,141 doctors for a ratio of one physician to 1,324 citizens. Total attendance at MCSC was 213 students but entrance requirements were "nominal." The faculty staff was comprised of eleven professors (none full-time) and twenty-three instructor-assistants. Maintenance funds, obtained solely from student fees, did not exceed $20,000 for classrooms and labs, but the school's privately owned Roper Hospital was not dependent on the student fees. It was located one mile from the medical school campus and contained two hundred beds, eighty of which were occupied the day of the survey. House officers were few, obstetrics work was minimal for medical students, and there was no organized dispensary.[104]

[104] Flexner, 300-01.

The paucity of facilities adapted for teaching students, both preclinical science and clinical medicine, were so limited that Flexner did not summarize these inadequacies as was his previous usual practice. His comments were particularly harsh when describing the laboratory facilities: "very meager equipment. . . dissecting room in bad condition," speak for themselves. He also noted that "student work in those subjects (pathology and bacteriology) is mostly confined to looking through the microscope at slides, "and the institution has no library except some antiquated publications, and no museum except old paper-maché and war models." He did note that the pathology-bacteriology instructor "has a fair private laboratory, to which students have no access." [105] This dismal evaluation helped earn the Medical College a "C" rating from the AMA's CME survey, the lowest ranking offered by the agency.[106]

A class "C" rating required a complete reorganization to make the institution acceptable and although they comprised one-fourth of all medical schools, they accounted for less than 10 percent of the students and graduates. For the 1909 licensing examinations, only 11.0 percent consisted of class C institutions' graduates and 8.4 percent of the total that passed the exam. The class "C" rating was based on the licensing exams but also influenced by the AMA's CME and Carnegie Foundation's inspection surveys.[107] For the MCSC this rating had existential implications but its relatively new and progressive dean, Robert Wilson, pursued a strategy encouraged and almost mandated by Flexner. This strategy was uniquely adaptable for survival of substandard proprietary institutions such as South Carolina's only medical school.[108]

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[105] Ibid.

[106] Robert Wilson, "Personal Recollections of the Reorganization of the Medical College." Historical Archives, Medical University of South Carolina, 7. Waring Historical Library, Charleston, South Carolina.

[107] William G. Rothstein, *American Medical Schools and the Practice of Medicine: A History* (New York: Oxford University Press, 1987), 146-147.

[108] Wilson, 2.

When Wilson became dean of MCSC in 1908, he was aware of the institution's shortcomings since he had served as Adjunct Professor of Bacteriology from 1901 to 1903, prior to his appointment as Professor of Medicine in 1904.[109] After the CME conducted its first confidential inspection of the country's medical schools in 1906-1907, the MCSC revealed glaring deficits in its teaching program, physical plant, and student selection. He addressed these problems as soon as possible, prioritizing the construction of a modern medical school building to replace the antiquated structure that had functioned since 1827. The dean was able to raise the necessary $76,000 for the cash-strapped institution (without an endowment) for such an undertaking by garnering community support from the citizenry, alumni, faculty, and city council. Construction began in 1913 on a site valued at $15,000 and donated by the city. Sited adjacent to the newly renovated, privately-owned Roper Hospital that served as the medical school's teaching hospital, the new medical building became operative in the fall of 1914.[110]

The dean's major goal, however, was for the proprietary institution to relinquish its ownership of the school in favor of becoming an organic department of the state university located in Columbia, the state capital. Achieving such a relationship would ensure funding by the state's legislature for fiscal support at a time when medical education reform required significant capital outlays for faculties, modern research facilities, an up-to-date medical library, student and house staff living quarters, and administrative salaries and offices.[111]

This survival strategy depended on the gift-transfer of the privately owned medical school to the state, preferably to be located in Charleston where the faculty-owners worked and

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[109] Kenneth M. Lynch, *Medical Schooling in South Carolina, 1823-1969* (Columbia: The R.L. Bryan Co., 1970), 71.

[110] *The (Charleston) News and Courier*, April 28, 1913 and May 13, 1913.

[111] Joseph Waring, *A History of Medicine in South Carolina, 1900-1970* (Columbia: South Carolina Medical Association, 1971), 25.

lived.[112] The potential obstacles to Wilson's entreaty were formidable, including apathy on the part of the state's legislature, a group with the reputation for denying support for education reforms, as well as opposition from Columbia's medical community, which wanted to relocate the medical school to Columbia, the site of the state flagship university and capital. Wilson also had to contend with an unpredictable, antiestablishment state governor, Coleman Blease, "who was temperamental, flamboyant, explosive, and more controversial than any South Carolina governor" and "especially contemptuous of higher education." His political strength came from the mill workers and small farmers, and Blease gave them "a voice to their resentment, against a system in which they felt, at best ill served," a political strategy developed by his predecessor "Pitchfork" Ben Tillman.[113]

Dean Wilson, on the other hand, was a "downtown Charleston aristocrat" whose ancestors dated to the colonial aristocrats and contained at least one physician in all but one generation dating to the end of the eighteenth century, most of whom were educated at the MCSC (founded in 1824). Robert Wilson, M.D., was a highly respected professional of excellent character, not trained for political infighting, but he developed a surprising rapport with the populist governor to gain his political support. The dean's plan, however, for the state to accept the medical college as a department of the state university while maintaining its location in Charleston, was a tall order.[114]

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[112] Robert Wilson, "Personal Recollections of the Reorganization of the Medical College," 2-4.

[113] W. Curtis Washington, Jr., "A Study in Post-Flexner Survival: The Medical College of the State of South Carolina," *Journal of the American Medical Association* (August 21, 1991), Vol. 266, No. 7: 981-984.

[114] Washington, 982-983.

Initially Dean Wilson encountered opposition among the local medical leadership, as the previous dean, Edward Parker, championed an association with nearby College of Charleston, a small private, poorly-endowed liberal arts college. Local faculty surgeon Manning Simons, however, felt that if the state was to take ownership of the medical school, it should be in Columbia, near the site of the University. Wilson pointed out, however, that most state governments supported their only medical school in its role of contributing to the public welfare, and even city governments were funding public medical institutions, citing the University of Cincinnati's medical school, which received financial aid from the city. The MCSC's faculty and trustees eventually supported Dean Wilson's proposal to gift the medical college to the state realizing that the institution would not survive otherwise. Wilson also enlisted the support of Governor Blease, using a combination of logic and flattery, recognizing the politician as a "progressive man," for which the governor replied, "Yes, and I want my administration to get full credit for it." Before the General Assembly on January 13, 1913, the Governor recommended passage of a bill for the state to accept ownership of the medical college.[115]

Although most of the legislators agreed to the transfer of the Charleston institution to the state, the final location of the school became a sticking point with University of South Carolina President Samuel Mitchell. Backed by Columbia's newspaper, *The State*, President Mitchell wanted the medical school to be relocated to the University's campus in Columbia, but the Charleston contingent, supported by its newspaper, *The News and Courier*, lobbied for the medical institution to remain in Charleston. Complicating this late inning, potential deal-breaker was Governor Blease's history of expulsion by the University in 1890 for his "attack on the

[115] Washington, 982.

institution" as a student, an event he was still touchy about despite the passage of a quarter century.[116] Also working against the Columbia clique was the fact that the Charleston proponents were assisted by an unexpected but powerful ally, the Secretary of the AMA's Council on Medical Education, Dr. N.P. Colwell.

The CME secretary happened to be in Charleston on an unrelated matter and was unaware of the legislative struggle concerning the state's adoption of the MCSC as a department of the state university, but he was quickly brought up to date after a chance meeting with Dean Wilson. Persuaded by the dean, Colwell agreed to go before the Senate Finance Committee in the state capital to advocate for a state-supported medical school. Although he had no interest in becoming embroiled in the location controversy of Columbia vs. Charleston as "improper and unwise," his appeal to the committee left little doubt where his sympathies lay. His recommendation was that the location be a function of "where the best facilities for teaching medical students can be secured at the least expense," and he pointed out that many university medical schools were not contiguous to the main campus but operated effectively in more propitious locations. Colwell did note that the medical college in Charleston was "largely developed" with preclinical labs that "were not obsolete" and the school owned the recently renovated Roper Hospital, which contained "a large amount of clinical material and had an excellent outpatient department." Colwell became an advocate for a state supported medical school in Charleston, and with his stellar reputation as a recognized officer of an accreditation agency, the General Assembly voted to accept the MCSC as a state-supported entity in February 1913, despite some ruffled feathers in Columbia's medical community.[117]

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[116] Ibid.

[117] Washington, 982-983.

The rescue of the MCSC by the state almost immediately improved its hopeless "C" status to a "B" ranking by the accreditation agencies. The school also received an initial appropriation of $10,000 from the state for 1913-14. Moving into its new quarters in the fall of 1914, the administration concentrated initially on tightening the entrance requirements, which had been in loose conformity to the CME's specifications of four years of high school and one year of college with its emphasis on the sciences.[118] Also, the medical school had been lax when it became apparent that some students advancing to the clinical years were found to have failed preclinical coursework, and the administration and faculty initiated closer monitoring and promotion procedures. The school's Curriculum Committee also reorganized the coursework to eliminate many of the boring, didactic lectures with a greater emphasis on the "learn by doing" laboratory approach employed by the "A" ranking models such as Johns Hopkins and Tulane.[119]

With a newer emphasis on laboratory teaching in the preclinical years, the floor plan of the "new quarters" provided in 1914 was already becoming obsolete. Revisions and new construction to "keep up" was expensive but necessary and became more problematic as the country entered the Depression years.[120] Fortunately, additional structures were added prior to the Depression, including the Physiology-Pharmacology Building (1920) and the Library-Pathology Building (1930). Community involvement became a factor in maintaining the institution during the Depression with the addition of a new Outpatient Clinic in 1935, made possible by generous alumni. The Simon Baruch Auditorium followed which was donated by the financier-philanthropist Bernard Baruch in honor of his father. Although a graduate of the

[118] Wilson, 7; Lynch, 79.
[119] Lynch, 76.
[120] Lynch, 78-79.

Medical College of Virginia, Simon Baruch served as a young surgeon in the Confederate Army and later retired to South Carolina.[121] His son Bernard, who maintained winter residences in South Carolina, funded a variety of projects at the medical school both during the Depression and in the post-WWII years, as the medical school seemed to be in a chronic struggle for public funds from a parsimonious legislature.

The medical college also experienced quality issues of its faculty, many of whom were private, part-time practitioners (basically voluntary), but the school was unable to hire full-time faculty due to the expense, either the "strict" (no outside remuneration) or "geographic" (privileged to accept a remunerative referral practice) variety. Dr. Kenneth Lynch became the first full-time hire as professor of pathology in 1913, followed by Dr. W.F.R. Phillips in 1915 when he assumed the chair of anatomy, but these and future appointments in biochemistry, physiology, pharmacology and bacteriology were in the preclinical sciences. It was not until 1937 that the first full-time clinical faculty were appointed in medicine, Drs. John Boone and William Kelly, and in surgery, Dr. Frederick Kredel.[122]

The limiting factor in the recruitment of full-time faculty were the small salaries available at MCSC, in the $3,000 yearly range without significant fringe benefits or research and travel expenses for academic conferences.[123] The better endowed and more prestigious institutions easily outbid Charleston's financially strapped institution for talented researchers and clinicians. The lure of private practice and its financial rewards held great appeal for young, talented physicians, who also could avoid the stress and infighting commonly associated with academic

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[121] Waring, 15.
[122] Waring, 26.
[123] Lynch, 81-82.

medical schools. The MCSC was forced to operate with inadequate financial support during the Depression years from a state "that had fallen from the top to the bottom in the economic ratings of the states." The MCSC was unable to secure funding from philanthropic foundations, the state's business community, or wealthy alumni for a substantial endowment, a criteria that Flexner had strongly advocated. As was typical of the underfunded southern medical schools during the Depression, MCSC's ability to carry out the necessary reforms to survive heavily depended on federal assistance, such as Roosevelt's New Deal initiatives. The MCSC was able, however, to survive two world wars, a crippling depression, and a substandard (but rapidly improving) secondary school system while being on academic probation, which was finally lifted in 1952.[124]

The main survival strategy practiced by the substandard proprietary southern medical schools in the age of medical education reform involved their ability to merge with institutions in similar straits and pool their resources to become approved, accredited entities. Between 1906 and 1916 sixteen medical schools in five southern states merged in various combinations to create five university affiliated medical departments that survived to become "A" rated, accredited institutions. In addition, the Medical College of Georgia and the Medical College of South Carolina, often previously mistaken for state supported medical schools, were, in fact, rescued by their states' flagship universities to become legislatively approved medical departments in 1911 and 1913 respectively. All of these troubled southern medical schools successfully weathered the Great Depression and the World War II years because of their university affiliations and their dedicated administrators and deans.

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[124] Waring, 26.

CHAPTER VI: THE NEWLY-DEVELOPED MEDICAL SCHOOLS OF THE SOUTH, AND THE SPECIAL CASE, AND THEIR BENEFACTORS

In 1906 there were 166 medical institutions in North America that identified as medical schools, but following the AMA's CME survey of 1907, and followed by the Carnegie Foundation's survey (the Flexner Report) of 1910, this figure decreased to 76 by the mid-1920s. Ironically, the 31 homeopathic and eclectic schools lost only a third of their institutions during this timeframe although their downhill course continued, while the allopathic "regular" schools' numbers remained essentially unchanged over the next two decades.[1] Between the mid-1920s and World War II (WWII), however, the South gained three complete medical institutions and the stabilization of a fourth, all due to the efforts and resources of unique benefactors. These patrons created and supported completely different genres of medical schools: a private regional medical center (Duke University School of Medicine), a two-year medical college transitioning to a four-year complete medical school (Bowman Gray School of Medicine), a state-supported medical school (Louisiana State University), and an established black medical college (Meharry Medical College).

Flexner visited North Carolina (population 2,142,084) in February 1909 to inspect the four existing schools in the state that included two "half" or two-year preclinical schools: an organic department of the University of North Carolina Medical Department (UNCMD) with 74 students in Chapel Hill (population 1,181), and the Wake Forest College of Medicine (WFCOM) with 53

[1] E. Richard Brown, *Rockefeller Medicine Men: Medicine and Capitalism in America* (Berkeley: University of California Press, 1979) 154-155.

students, an integral part of Wake Forest College in Wake Forest (population 900), located twenty miles north of Raleigh. Also visited was the complete Leonard Medical School (LMS), a black institution in Raleigh (population 20,533) with 125 students, an organic part of Shaw University, and the North Carolina Medical College (NCMC), a proprietary institution in Charlotte (population 36,320), with an attendance of 94 students, 87 percent of whom were from North Carolina.[2]

The faculties of LMS and NCMC were both part-time and substandard while the fifteen teaching staff at the Medical Department of UNC included ten professors "who take part in the work of the department," supported by instructors who were full-time teachers. The Wake Forest College of Medicine boasted six full-time instructors, and "two of them devote their entire time to medical education." Equally impressive at Wake Forest were the laboratories, which "indicated intelligence and earnestness," as noted by Flexner. He also observed that the chemistry, bacteriology, pathology and histology laboratories were separate and appropriately equipped instructors having their own "private laboratory." On the negative side there was concern that the physiology department was "slight," and there was no pharmacology lab. Although the museum was small, charts and books were provided.[3]

Flexner was not as sanguine on the laboratory situation at the NCMC, where he found "a wretched dissecting room. . . a poor chemistry laboratory, and . . . meager outfits for bacteriology, pathology, histology, and chemistry." Other pertinent negatives included no

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[2] Abraham Flexner, *Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching* (New York: Arno Press and the New York Times, 1972), 279-280. Originally published by the Carnegie Foundation in 1910. Reprint Edition in *Medicine and Society in America* (New York: Arno Press, 1972).

[3] Ibid.

museums, no library, and no teaching aids of any variety. Post-mortem examinations by the school's pathologist were never mentioned. The LMS did possess "a clean and exceedingly well-kept dissecting room, but the chemistry lab was described as slight, and the pathology as 'still slighter.'" He found no library, museum, or teaching accessories at the black institution.[4]

The clinical facilities of the two four-year medical schools were likewise insufficient. Flexner described the LMS as "hardly more than nominal," and Charlotte's NCMC "deficient," having only four weekly clinics at a black hospital with thirty-five beds, with only rare obstetrical cases and "unimportant hospital connections." The NCMC dispensary was also "poor . . . with small attendance" despite having a "fair suite of rooms." The LMS had no dispensary, but it had access to a sixteen-bed hospital, although only three beds were occupied on the day of Flexner's visit. There was some hope that the LMS might improve its hospital and laboratory facilities with a recent grant of $30,000.[5]

The resources available for the maintenance of the two "half schools" were provided by their parent institution's budgets, in addition to the $6,500 in student fees at the UNCMD, and $2,225 at the WFCOM. Neither institution had an endowment. The LMS operated on $4,721 derived from fees and contributions paid to its practitioner-teachers, and although regarded as an "integral part" of the black Shaw University, the medical school was unable to obtain secure funding from its affiliated University. The NCMC took in $8,345 in fees in the fall of 1908, a large percentage of which was required for its building mortgage and debt.[6]

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[4] Flexner, 279-281.
[5] Flexner, 279-280.
[6] Flexner, 279-281.

Although North Carolina's ratio of physicians to population, according to Flexner's German model appeared appropriate, he was concerned that these poorly trained doctors, some unlicensed and unregistered and scattered in "remote districts" were providing health care with little accountability or expertise. The two preclinical schools seemingly had the advantage to reform and survive, having the adequate funds and training resources provided by their parent institutions. Assuming that their students' two years of clinical training would be completed at accredited medical schools, mainly in the North (or at an acceptable southern institution). these "half schools" could continue to furnish well-trained physicians for North Carolina.[7]

Flexner was satisfied that the preclinical medical schools at Wake Forest College and the state university in Chapel Hill were both "capable of doing acceptable work within the limits of their present resources," and he was impressed that both institutions required college coursework for incoming freshmen. He was, in turn, dismayed about the quality that the two complete schools provided, and he suggested the elimination "of the thoroughly wretched Charlotte establishment" and complained that the black school in Raleigh was a "philanthropic enterprise that has been operating for well-nigh thirty years and has nothing in the way of plant to show for it." The LMS accepted state funds to reimburse practitioners who "supposed themselves assisting in a philanthropic work" but were unable to maintain adequate clinical teaching. Flexner was very aware of the extreme shortage of qualified black physicians in the country but felt "to help the negro" it was necessary to concentrate available resources on Howard and Meharry Medical

[7] Frank B. Dove, "Origins of the Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, North Carolina." Paper, History of Medicine Course, Spring Semester, May, 1965. 3-15. Wake Forest University School of Medicine, Dorothy Carpenter Medical Archives. Files Collection Folder: Historical-Bowman Gray School of Medicine, North Carolina Baptist Hospital, Winston-Salem, North Carolina.

Schools which "have a chance to be efficient." With dwindling resources, the LMS was reduced to a two-year preclinical medical school in 1914 and failed as an institution in 1918.[8]

Flexner's "General Considerations" summary of the situation in North Carolina seemed to lament the findings that the state contained no quality, complete medical school and to obtain one would depend "on the plane of entrance to the state university."[9] The irony of his conclusion, however, was that the state university in Chapel Hill did not provide a four-year medical school until the mid-1950s. The state of North Carolina, however, benefitted from the philanthropy of a pair of tobacco barons who became the foundation fathers for the creation of two complete medical schools in the Tar Heel state. The first of these, the Duke University School of Medicine (DUSM), began classes in October 1930, on the eve of the Great Depression, and the other medical institution, the Bowman Gray School of Medicine, opened in September 1941, just prior to the country's entry into World War II.

By the early 1920s the southern medical education community was aware of what was required to reform their teaching programs to survive as institutions and maintain their acceptable accreditation status. Although by 1918 the entrance requirements for incoming students increased to a full high school education and two years of college with an emphasis on the basic sciences, there was a marked increase in the number and quality of secondary school graduates among the southern states since the early 1900s who were eligible for higher education.[10] The main limiting factor in sustaining quality medical schools was their ability to fund the faculties, laboratories, and school infrastructure (classrooms, auditoriums, libraries, and

[8] Flexner, 279-282.
[9] Flexner, 281.
[10] Flexner, 40-42.

clinical facilities). These needs required sources of income from the state, philanthropic agencies, a university affiliation, or community and alumni involvement. The early twentieth century South had a relatively limited commercial base compared to its northern and midwestern counterparts, with a largely agrarian-based economy and its textile and tobacco industries. Fortunately for North Carolina, the tobacco industrialists came to the rescue of medical education and healthcare for the state and region during a crucial period when financial resources were spare and uncertain.

A Medical Center for Durham

In the post-Civil War era the city of Durham, North Carolina, became a major center for the tobacco industry as the demand for locally-grown bright leaf tobacco products proliferated in the 1870s and 1880s. This growing industry resulted in the establishment of a wealthy citizen class including the Dukes, the Carrs, and the Watts, who comprised the owners and managers of this rapidly growing industry. As the city of Durham grew it spawned "offensive and inconvenient" living conditions from overcrowding and to unreliable clean water and to a primitive sewage system, especially in areas of garbage dumps and privy middens, which triggered a public health menace. Rotating illnesses including malaria, dysentery, diphtheria, and typhoid fever occurred with such frequency that they were lumped together in what became known as "Durham Fever." The high incidence of tuberculosis among factory workers raised suspicions among the medical community that perhaps the factory's tobacco dust played a causative role in the spread of this disease. Piecemeal improvements, such as a clean water supply and a sewage system similar to that provided by the tobacco city of Winston (to become Winston-Salem in 1913), were debated among Durham's city government. It was the personal

physician to the Duke family, Dr. Albert G. Carr, who saw the need for the city to have its own hospital for health protection.[11]

Dr. Carr enlisted the support of the local newspaper, *The Daily Tobacco Plant*, and the Durham Medical Society in early 1888 to establish a "hospital for the benefit of the poor," but the local churches, benevolent orders, county commissioners, and leading citizens showed little enthusiasm for the project, noting that hospitals were a place that poor people went to die and rarely got better.[12] The doctor even volunteered to contribute two of his downtown lots for the project, but again, the idea received a negative response. Continuing his pursuit of a hospital for Durham coincidentally put him in contact with the trustees of Trinity College, one of whom was his wealthy tobacconist brother Julius, who sought to relocate a small liberal arts Methodist college in Randolph County to a city with a larger population base, where the college could grow and liberalize its curriculum. The institution's newly hired President John Franklin Crowell, "fresh from Yale" in 1887 wanted to promote a "tradition of training men for public careers in law, medicine, politics, business and religion."[13] Durham's wealthy tobacco industry's families were able to outbid Raleigh to bring the institution to Durham, made possible by the timely donation by J.S. Carr of the city's fairgrounds as the school's site, and a cash outlay of $85,000 from Washington Duke for buildings and endowment.[14]

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[11] James F. Gifford, Jr. *The Evolution of a Medical College: A History of Medicine at Duke University to 1941* (Durham: Duke University Press, 1972), 7-8.

[12] *The Tobacco Plant*, May 25, 1889.

[13] John Franklin Crowell, *Personal Recollections of Trinity College, North Carolina, 1887-1894*, (Durham: Duke University Press, 1939): 99-100.

[14] Crowell, 162-167.

Dr. A.G. Carr's interest in pursuing a quality city hospital for Durham was renewed with the city's acquisition of Trinity College, and he was able to enlist George W. Watts, a major local industrialist (tobacco, banks, textiles, and railroads) with a penchant for philanthropy to become the major sponsor and contributor for a city hospital including its construction, maintenance, equipment and endowment. The facility was named after its benefactor, the Watts Hospital. Completed in 1895 and modeled after the Johns Hopkins Hospital, it was the first private hospital in North Carolina to provide free health care for the poor. A wide range of trustees were responsible for raising funds, and Trustee Ben N. Duke, son of patriarch Washington Duke, obtained a Class "A" rating by the AMA for the hospital.[15] The hospital's role in caring for seriously ill patients during the smallpox epidemic of 1901 confirmed its expertise in public health maintenance. The philanthropic Duke family also underwrote the building costs for the Lincoln Hospital for blacks in downtown Durham, which provided healthcare for an underserved community.[16]

Trinity College continued to expand its academic programs, which included the addition of a law school and teacher-training program by 1910, the year that Dean William Preston Few became college president. Soon thereafter. Few was able to raise the college's endowment from $440,000 to $600,000 with a grant arranged by William Buttrick, the President of Rockefeller's GEB, and because of Few's liberal policies promoting education in the South "without distribution of race, sex, or creed." Although Few was aware and concerned about the shortage of qualified physicians in North Carolina, he was hesitant to commit Trinity College to

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[15] *The Durham Globe*, 11 July 1895.
[16] Gifford, 20.

developing a complete medical school after reviewing the Flexner Report and realizing the financial resources required for such an endeavor.[17]

President Few revisited the issue a few years later in 1916 when he pursued the possibility of establishing a two-year preclinical medical department at Trinity College, noting an interest among Trinity students for pursuing medical careers. Since Few last entertained such a possibility, Trinity's financial position had become more favorable due to the beneficence of the Duke family. Few wrote to his good friend Simon Flexner, director of the Rockefeller Institute, who forwarded the letter to his brother, Abraham, Executive Secretary at the GEB, whose interest was aroused by such a possibility. But the scheme was tabled due to the United States's entry into World War I, followed by the 1918 flu epidemic and the postwar mini depression.[18]

In the early 1920s there were about 400 pre-med students attending North Carolina colleges but only about 130 spaces available at the two North Carolina pre-clinical medical schools in Chapel Hill and Wake Forest. These institutions were both disadvantaged by their small-town locations, insufficient funding, and dated facilities and equipment. With growing interest among the GEB to support "a quality medical school. . . south of the Potomac River and east of the Appalachians," and aware of the Watts and Duke families' interests in major medical philanthropies, President Few saw an opportunity for Trinity College to organize a complete medical school as an organic department of "Trinity University" in Durham.[19]

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[17] Gifford, 18-25.

[18] Gifford, 26.

[19] William Preston Few, *The Duke Endowment and Duke University*, "Beginnings of an American University," (Durham: Duke University Press, 1930): ch. 7, 1-2.

Civic competition began in earnest in the early 1920s for a four-year medical school to be in either Charlotte, Durham, or Chapel Hill. The rivalry was intense as Charlotte touted its hospital facilities, larger population, and city business support while the latter contended that it was the seat of the state university and the site of a quality pre-clinical medical school. Durham and Trinity College prevailed, however, because it already possessed a first-rate hospital and a ready institution with which to affiliate.[20]

Most importantly, Durham was home to a wealthy and philanthropic community that could provide the funding necessary to finance a new medical school. Ben Duke, the younger brother of James B. Duke, was responsible for furnishing improvements to the black Lincoln Hospital in 1924, which added potential teaching beds to be made available for the anticipated medical school in Durham. The GEB also assured timely matching fund contributions for the start-up medical school and attached teaching hospital.[21] J.B. Duke's further successful business enterprises, including electric power stations and aluminum works, enabled the entrepreneur to create the Duke Endowment. This philanthropy, in addition to supporting orphanages, educational institutions, and the Methodist Church, provided the newly named Duke University (replacing Trinity College) with $8 million. These funds provided for the building and operations of a new campus in 1925, which included a medical school and attached hospital. Of the $40 million contained in the Endowment, $6 million went for construction expenses for the

[20] Wilbert C. Davison, *The Duke University Medical Center 1892-1960* (Durham: Duke University Press, 1967): 1-7.
[21] Gifford, 30-34.

University, and $2 million for the name change from Trinity to Duke. These machinations preceded the death of J.B. Duke in October 1925.[22]

Working quickly to establish the new medical school, President Few raided Johns Hopkins, hiring their Assistant Dean of the Medical School, Dr. Wilbert Cornell Davison, as the first Dean of the new Duke Medical School in January 1927. He immediately set out hiring a young and able faculty by poaching liberally on the Hopkins junior faculty. He endorsed at least two years of college with coursework tilted heavily towards the sciences, even if it meant fewer than the limit of fifty acceptable for the freshman class. The new dean also suggested an added-on summer session for those students wishing to graduate within three years instead of the traditional four years. He wanted greater flexibility in the rigid curriculum and offered more elective time in place of some previously mandatory courses to selected students to better tailor their interests and needs for practice. Dean Davison cultivated the state's practitioners by providing for postgraduate refresher courses in the summer months and maintaining free access for the region's doctors to the medical school's new library. Provisions were also made for the university's nursing students to live on the women's campus (the former Trinity College campus) with the same privileges offered the female undergraduate university students.[23]

Like the other medical centers developed in the wake of the Flexner Report, including the Ford Hospital (1919), the University of Rochester Medical School (1922), and the newly reorganized Vanderbilt University Medical School, it was common practice to offer senior faculty positions to promising Johns Hopkins-trained younger staff. Those who were adept at

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[22] Few, ch. 8, 6; Gifford, 31.
[23] Gifford, 51-56.

both teaching and research comprised key appointees by Dean Davison, who followed this paradigm, but he also was innovative in hiring women for key positions, including Susan Gower Smith in the Biochemistry Department and Miss Bessie Baker as Chief Nurse of the new hospital. Also one's religious beliefs and practices were irrelevant to Dean Davison, and when asked by a clergyman about the religious affiliation of the infectious disease specialist recently appointed Chief of Medicine, Dr. L. A. Moss, the Dean's terse reply rejected "Methodist interference in medical affairs."[24] So impressive was the ongoing construction of the medical school and hospital, as well as its new entrance requirements, faculty appointments, and curriculum changes, the new Duke Medical School received an "A" rating from the AMA's CME in 1929, a full year before beginning classes.[25]

The Duke Medical School's University Hospital had its formal opening on July 20, 1930, and the following day admitted its first patients. In the early fall, thirty first-year students, chosen from three thousand applicants, began their medical studies, and eighteen additional third-year transfer students started their clinical rotations at North Carolina's first approved and complete medical school in the post-Flexner era. Although Dean Davison preferred full-time salaried faculty, he took the advice of Harvard's Dr. Harvey Cushing to permit "geographic" full-timers for his clinical staff. He also agreed to allow admitting privileges at the University Hospital for academically oriented private physicians eager to share interesting patients with the clinical students.[26]

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[24] Gifford, 61-62.
[25] Gifford, 67-68.
[26] Davison, 27-28.

In contrast to the concentrated wealth of the Durham industrialists who were able to fund and sponsor what quickly became a select, co-educational university and first-rate medical complex, pre-Depression North Carolina remained a poor southern state in the bottom 10 percent of per capita yearly incomes ($367). The Great Depression exacerbated this relative poverty and impacted Duke's hospital and medical school's financial picture significantly, as their Methodist-driven policy was not to deny medical care for any individual in need, whether referred or "off the street."[27] In-patient hospital expenditures for 1930-31 were covered by only twenty-five percent of white patients and four percent of black patients, and required $260,000 in subsidies from the University to meet these expenses.[28] This problem was mitigated by the development of an out-patient system of specialty clinics for non-acutely ill patients, which also proved to be an effective teaching tool for both students and house officers assigned to these clinics, with their work closely monitored by senior staff. The referring physician benefitted from copies of the complete workup, including the lab data, treatment protocol, and instructions for follow-up. This innovative system proved to be both cost and clinically effective and provided a regional model that was adopted by both southeastern medical schools and community hospitals with house staffs.

The geographic full-time clinical staff also organized the Private Diagnostic Clinic (PDC) in the fall of 1931, which was patterned on the Mayo Clinic, and over the ensuing years was embraced by other southern medical schools' faculties. Duke's PDC became so successful that in the late 1930s another wing was added to the University Hospital to provide additional offices,

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[27] Gifford, 57.
[28] Few, 2-3.

examining rooms, and private beds for the PDC to meet the demand. The PDC was important, as it attracted premier clinical and research faculty and enabled the Duke Medical School and Hospital to become a regional medical center and pathfinder institution.[29]

The demographics of the Duke University Medical School's student body changed considerably from its earliest classes when most of its students were from small southern towns. With the medical school's higher than anticipated attrition rate averaging 25 percent, and its rising academic reputation, the institution became more selective for its incoming classes. By the mid-1930s Duke's medical students hailed from the urban areas of thirty-nine states and five foreign countries. The school now required three years of college, which ensured better-prepared and more well-rounded candidates, and by the end of the decade the attrition rate was halved and the acceptance rates of students from rural North Carolina decreased to 4 percent.[30]

The education process for the preclinical years also underwent change with the implementation of progressive teaching methods. Students were no longer given numerical grades and written examinations were not heavily emphasized. The new emphasis was based on lab performance and tutorial questioning that determined whether a student passed or failed. In addition to lab instructor's impressions, the student would be graded by consensus at departmental meetings.[31] This departure from the previous didactic lectures followed by a written exam to the "hands-on" approach and judgments about the ability to perform appropriate

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[29] Deryl Hart, *The First Forty Years at Duke in Surgery and the PDC* (Durham: Duke University Press, 1971), 8-12.

[30] Gifford, 106-107.

[31] H.G. Weiskotten and Harold Rypins, "Duke University School of Medicine." April 1935. An official accreditation survey report made for the American Medical Association. Copies in the files of the Assistant Dean for Student Affairs, Duke University Medical Center.

laboratory procedures was a direct consequence of a faculty trained in the Johns Hopkins-William Osler school of patient care.

Another teaching tool borrowed from the Hopkins tradition was the mandatory attendance at the Saturday morning Clinico-Pathological Conference (CPC) for faculty, house officers, and students, in which a recent hospital case resulting in the patient's death was reviewed. This death was presented by the clinical department to include the working diagnosis and treatment protocol followed during the hospitalization. The pathologists would then present the autopsy findings, followed by an evaluation of the academic experts in determining whether the patient's clinical course was handled appropriately and commensurate with the standard of care. With the complete faculty's participation and expertise, discussion of these selected cases would provide new approaches and methodology for similar cases in the future.[32]

During the decade of the 1930s, the Duke faculty and its Dean modified the curriculum to offer its students greater exposure to subspecialty and research electives. These opportunities provided students in their clinical years a wider range of study but remained a source of concern among several senior faculty that the garden-variety cases, making up the bulk of clinical practice, was being neglected. Dean Davison recognized this potential shortfall and enacted a policy that required Duke graduates to complete two years of a post-graduate internship to obtain their medical degree, the only medical school in the United States to maintain such a policy.[33] Despite this extended internship, Duke graduates had one of the highest rates of specialization among the country's medical institutions.

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[32] Gifford, 123.

[33] Frederick M. Hanes and Wilbert Davison, "Postgraduate Medical Education and Internships," *Journal of the Association of American Medical Colleges* 16 (Nov. 1941): 372.

By 1935 Duke's research program began making significant contributions to the diagnosis and treatment for a number of diseases unique to the region, including pellagra and the fungal diseases, *Blastomycosis, monilia*, and *candidiasis*.[34] Before antibiotics became available to treat *Staphylococcus aureas* infections, Duke's talented surgeons experienced periodic endemics of their patients dying of post-operative "Staph" sepsis, especially following major chest surgery, despite taking meticulous aseptic precautions. The vehicle of the Staph bacterial contamination in the operating rooms was found to be the circulating ambient air during lengthy, exposed procedures. The solution arrived at became the prophylactic use of ultraviolet lamps in the operating rooms, as the UV light eliminated the deadly bacteria, while protective dress (gown, goggles, and eyeshades) was arranged to protect the staff. Following the use of UV lamps in the ORs, the Staph infection rate was reduced from 33 to 3.8 percent, with more rapid postoperative healing. This innovation was rapidly adopted nationally by the country's major surgical centers.[35] The decade ended with Duke's research virologists finding a cure for the recently isolated *equine encephalomyelitis* virus and developing a killed virus vaccine to prevent the disease in both horses and humans. Funded by Lederle Laboratories and the National Cancer Institute, Duke's researchers continued to develop human antiviral vaccines that became available for the military in the coming global conflict.[36]

The Duke University medical complex in its first decade of operation developed well-trained physicians for general practice and specialty medicine, the latter previously requiring referral and travel to the academic medical centers in the North. Specialty medicine and complex

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[34] Gifford, 134-140.
[35] Gifford, 144-148.
[36] Gifford, 151-154.

surgical procedures were now available in Durham with patients having to travel only an average of 70 miles to receive state-of-the-art healthcare. In the 1930s, over 150,000 patients made more than 500,000 visits to the Duke University Hospital. To maintain the high quality of its incoming students, the medical school's acceptance rate was limited to seventy-six students annually, and the state and region continued to have a deficit of practicing physicians, a situation that called for a political solution.[37]

An energized General Assembly and Governor Clyde R. Hoey created a commission to study the problem and arrived at the solution of turning one of North Carolina's two preclinical medical schools into a "complete" school, strongly favoring the state school in Chapel Hill (UNCMD) over the private Wake Forest College of Medicine (WFCOM) near Raleigh.[38] Because either option would require the construction of a teaching hospital of at least three hundred clinical beds, the state admitted it was unable to provide the funding for both the school and hospital, which eliminated UNC from consideration. The WFCOM, however, remained a viable option under the right conditions.[39]

The Upgrading of a Preclinical "Half-School" to a Complete Medical School

When Wake Forest College opened its doors in 1834, it was conceived as a college to train men for the Baptist ministry. In the postbellum period, its president, C.E. Taylor, had a vision to expand to a college of national standing, which began with his leadership in 1875 and persisted until his retirement in 1905. During his three decades as president, the college's

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[37] Wilbert C. Davison, "The First Ten Years of the Duke University School of Medicine," *North Carolina Medical Journal*, no. 2 (1941), 527-532.

[38] Gifford, 182.

[39] Gifford, 182-183.

curriculum not only taught the liberal arts and sciences but also developed a law school and a two-year pre-clinical medical school in 1902 that drew praise from Flexner's 1910 survey. When Taylor retired, the college "for teachers and preachers" had increased its assets during his thirty-year guidance from $15,000 to $400,000, and he succeeded by quietly accomplishing his goals despite the headwinds of a conservative board of trustees. Satisfied with his half-school medical institution, he purposely did not overextend the college's limited resources to develop a complete medical school, realizing that this project required "the advantage of great hospitals and extensive clinical opportunities of a large city," which Wake Forest did not possess.[40]

Wake Forest College's preclinical medical school made solid faculty hires for the laboratory sciences and had unexpected high numbers enrolling in the first classes in 1902.[41] With the completion of the Alumni Building in 1905, which housed the institution's classroom, laboratories, and infirmary, the new school was accepted for membership in the AAMC and received the "endorsement" of the AMA in 1904-05, after demonstrating efficiency and progress in its initial years of operations.[42] Abraham Flexner's Report in 1910 was reasonably generous in his assessment of the preclinical school, although he criticized that there was no pharmacology course and that the physiology lab was "slight." These problems were quickly rectified by the hire of Dr. W.T. Carstarphen, a graduate of the College who received his M.D. degree from

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[40] Coy C. Carpenter, *The Story of Medicine at Wake Forest University* (Winston-Salem: Wake Forest University Health Sciences, 2003), 1-2.

[41] Frank Dove, "Origins of the Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, North Carolina." Wake Forest University School of Medicine, Dorothy Carpenter Medical Archives. Files Collection Folder: Historical—Bowman Gray School of Medicine, North Carolina Baptist Hospital, May 1965.

[42] Dove, 4-5.

Jefferson Medical College of Philadelphia followed by postgraduate training in surgery and obstetrics and gynecology.[43]

The post-Flexner Report years were shrouded by faculty resentments, resignations, and a higher than normal turnover rate, which stabilized after Dr. Thurman Kitchin was hired as professor of physiology and pharmacology in 1917. He became Dean of the Medical School in 1919. Kitchin's ascension to medical school Dean came as a great relief for President Poteat whose chief challenge to his leadership came from the Southern Baptist hierarchy over the teaching of evolution on Wake Forest's campus.[44]

During Thurman Kitchin's tenure as dean of the medical school, the average class size almost doubled from thirty-three to fifty-eight, and his graduates were accepted for their clinical years at quality institutions, including Tulane, Duke, Pennsylvania, and Johns Hopkins. He was also successful in developing an active and responsive alumni network in support of Wake Forest College which became critical in the late 1930s when the half school was contemplating a change in status.[45] The dean was able to recruit an impressive faculty in the pre-Depression years, perhaps the most important of which was Coy C. Carpenter (Wake Forest Medical School, Class of 1922), who completed his medical degree at Syracuse University and returned to Wake Forest in 1926 to become Professor of Pathology and Physical Diagnosis. He later became assistant dean of the medical school in 1935, and the following year was appointed dean,

[43] Dove, 10.
[44] Carpenter, 13.
[45] Dove, 11.

enabling Dr. Kitchin to devote his full attention as president of the college, as the next five years were critical for the medical college's pursuit in becoming a complete institution.[46]

There was a stir of interest at the North Carolina Baptist Convention in 1929 for the preclinical school to transition to a four-year school and to move to Winston-Salem, a prosperous and populated city in the state that also was the home of the North Carolina Baptist Hospital, which was large enough to supply teaching beds for students' clinical experience. The *Raleigh News and Observer* showed their approval of such a plan in an article suggesting that a training school for nurses could also be set up at Baptist Hospital as a valuable component of a teaching hospital. To accomplish such an ambitious enterprise would require significant financial and political involvement from the local business community, and although the initial response was encouraging, support fragmented as the Great Depression took hold.[47]

This economic downturn and its concomitant scarcity of money soon impacted practicing physicians, unable to make a living, as fewer patients sought medical care because of expenses. The AMA's solution to this development was to increase the demand for doctors, by decreasing their numbers. This was accomplished by compelling suboptimal medical schools to reduce their enrollments or actually close their doors entirely, in particular some of the two-year preclinical institutions of which there were ten in the nation, five located in the South.[48] The AMA tasked its CME to begin a joint inspection of the country's medical schools in 1933 to identify which of

[46] Dove, 13.
[47] Carpenter, 15-17; C.S. Green, "Medical School May Be Moved," *Raleigh News and Observer*, 14 Nov. 1929.
[48] Carpenter, 17-20; Dove, 16-17.

these half schools were most expendable and to have the AMA and AAMC reduce or remove their accreditation status.[49]

Known as the Weiskotten Report after the chief investigator, Dr. H.G. Weiskotten, dean of the medical school of Syracuse University, the two North Carolina preclinical medical schools were inspected in the early spring of 1935, and the CME recommended the closure of the half schools, a decision adamantly opposed by both schools' presidents. They argued that the "oversupply" of doctors in the state did not account for the large sections of rural North Carolina with its indigent-low income and minority population who were without adequate healthcare.[50]

The trend of recent doctor-graduates was to begin their practice in population centers that offered the amenities of educational, social, cultural, and professional opportunities that rural and small towns were unable to provide. The criticisms directly targeting the preclinical institutions were their relative lack of research and publications by their faculties rather than the quality of their teaching.[51] The presidents noted a major percentage of their graduates were accepted for their clinical years at the better complete institutions. At the time of the inspection there were seven hundred fifty general practitioners and specialists working in North Carolina who had attended the state's two preclinical schools.[52]

The AMA's CME voted in September 1935 that it would no longer accredit the preclinical medical schools but was pushed to rescind this decision at its national December

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[49] Carpenter, 18.

[50] Carpenter, 18-21.

[51] Dr. H.G. Weiskotten and Harold Rypins, "Report on the Wake Forest College School of Medicine, Based Upon Inspection, April 15, 16, 17, 1935." Wake Forest University School of Medicine, Dorothy Carpenter Medical Archives. Files Collection Folder: Historical—BGSM, North Carolina Baptist Hospital. Winston-Salem, North Carolina.

[52] W. Reese Berryhill, William B. Blythe, Isaac H. Manning. *Medical Education at Chapel Hill: The First Hundred Years* (Chapel Hill: The Alumni Office, The University of North Carolina, 1979), 28; Dove, 11.

meeting. The AAMC opposed the AMA's decision to remove the half-schools' accreditation, as it felt the decision was not based on the quality of the schools or its graduates but rather to ensure less competition and better incomes for the practicing physicians, most of whom were AMA members. Weiskotten did leave some wiggle room, however, by leaving the North Carolina institutions with two alternatives: close or convert to four-year schools. Wake Forest would not consider closure but was intrigued by the alternative.[53]

The possibility of an additional complete medical school in the state moved the legislature to pass a resolution authorizing Governor Hoey to form a commission representing the two preclinical medical colleges and state officials to explore the feasibility of such an endeavor. Combining the two half-schools' resources into one complete four-year medical institution seemed logical, but this action involved the fusion of a state-funded and church-supported enterprise, which violated the policy of separation of church and state projects strictly enforced by the trustees of Wake Forest College. The Dean of the UNC Medical Department, Dr. W.B. McNider, strongly favored Chapel Hill as the site for the complete medical school, and the commission's final report released in the fall of 1938 supported this location. The state, however, did not have the necessary funds to finance the project that would require a three hundred-bed teaching hospital at an estimated cost of $1,500,000, with a yearly upkeep fee of $200,000.[54] The commission was also aware of Duke's recently constructed University and affiliated hospitals nearby, a scant ten miles away.

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[53] Dove, 17-18; Carpenter, 23.
[54] Carpenter, 24.

During these negotiations the family of the late Winston-Salem tobacco baron Bowman Gray revealed that in his will he made a provision for a sizable charitable fund to be donated to a project. The specific beneficiary was to be decided by a committee comprised of his family, Dean Carpenter, and Dr. Kitchin. This committee decided that a four-year medical school for North Carolina was an appropriate recipient of such a fund. The main stipulation of the gift, however, was that the prospective four-year medical school be relocated to Winston-Salem, home of the Gray family whose sons were graduates of UNC. Dean McNider refused the offer, however, not willing to move the medical department from Chapel Hill. The identical offer by the Gray family was then made to President Kitchin of Wake Forest College to use the Bowman Gray Fund to develop a complete medical school in Winston-Salem, and President Kitchin answered in the affirmative.[55] He was taken aback, however, when he was informed that the fund only provided $750,000 in principal and interest, with only $22,450 in yearly stipends, not the $5 million that was rumored to be the fund's worth.[56]

The official offer was made on August 2, 1939, and accepted by the president and Dean Carpenter the following day.[57] In addition, the North Carolina Baptist Hospital Trustees committed funds to increase the teaching bed capacity to three hundred while providing the facility and maintenance for the newly located medical school. Ten acres of land adjacent to the hospital were also donated to the medical school by the city for the building of classrooms, laboratories, and administrative facilities, with an estimated construction cost totaling $1,350,000. With groundbreaking in April 1940, the school was opened to students on

[55] Carpenter, 26-28.
[56] Dove, 21-22.
[57] Carpenter, 27.

September 11, 1941. That same day, Mrs. Nathalie C. Bernard, widow of the late Bowman Gray, donated her estate's farm buildings for the medical school, renamed the Bowman Gray School of Medicine (BGSM).[58]

The freshman class of forty-five students was selected from one thousand applicants, and thirty students from the medical college campus in Wake Forest were transferred to the new campus in Winston-Salem to comprise the sophomore class, the total making up the initial student body of the new campus.[59] Most of the key preclinical faculty made the transition to the Winston-Salem campus, including Dr. Carmillo Artom, the Professor of Biochemistry and Toxicology. He had an international reputation and was a Jewish-Italian political refugee from fascist Italy who had arrived in the United States to accept his position at the medical school in 1938.[60]

The new medical school was fortunate to recruit Dr. Frank R. Lock away from Tulane as chief of Ob-Gyn and Dr. Tinsley Harrison from Vanderbilt as Chief of Medicine, whose textbook on Internal Medicine was considered a classic of its genre. Taking advantage of the local academically oriented physicians, sixty-three members of the Forsyth County Medical Society joined the clinical teaching staff of the BGSM, twenty-five of whom contributed their time and expertise as clinical "instructional staff." Many of them became full-time faculty instructors.[61]

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[58] Dove, 22-23.
[59] Dove, 23-24.
[60] "Dr. Artom, 76, Biochemist Dies," *Winston-Salem Sentinel*, 3 February 1970, 1-5.
[61] Dove, 23-24; Carpenter, 34-38.

Initially, most of the students attending the newly developed complete medical school were North Carolinians, but by the mid-late 1960s the in-staters lost their majority although they remained the largest contingent in the private institution.[62] The timing of Wake Forest's medical school's upgrade to a four-year institution was fortuitous in that they had already met the criteria required for their acceptability as an accredited institution. Becoming a complete medical school on the eve of the country's entry to World War II was also an unexpected windfall for the Allied cause, supplying trained physicians for the war effort, both domestic and abroad.

The Governor and the Development of a State Supported Medical School in the Depression South

In 1924, the lawyer-politician Huey P. Long narrowly lost the Louisiana's governor's race, but he returned to the ballot in 1928, and with the overwhelming support of the less-advantaged underclass, he won the state's governorship by advocating broad social and economic reforms. Perhaps the most popular of these was having increased access to better medical care, and to achieve this goal, Long realized the state would require more physicians and updated facilities. He also noted that Louisiana, with a population slightly greater than two million citizens had two thousand doctors and only one medical school, whereas New York with a population of twelve million had twenty-one thousand doctors and nine medical schools. Disturbed by these statistics, the populist governor made it his responsibility that the citizens of

[62] Dove, 40-41.

Louisiana would have a state sponsored medical school, with him in the role of chief benefactor.[63]

Louisiana's only medical school was a department of Tulane University in New Orleans, a private, well-regulated institution with an excellent reputation. As the largest medical school in the South, it functioned as a regional medical center whose students were drawn mainly from the southern United States. Being a private school with an expensive tuition, it catered to the wealthier segment of the population, many from out-of-state who could afford such a school for their children to attend, as opposed to Governor Long's vision, which was to provide a medical education "for the poor boys of Louisiana."[64] His objective was to create a state supported medical school as the medical branch of the Louisiana State University (LSU) in Baton Rouge. He anticipated using the oversized Charity Hospital in New Orleans, a state-run institution, to provide the necessary clinical teaching beds and laboratory facilities for the project. In the governor's favor for developing a medical school was the 1877 charter of the LSU system, which allowed for the creation of such an institution.[65]

Soon after being elected governor, Long quickly removed Dr. William Leake as superintendent of Charity Hospital (whose influential father was politically opposed to the "Kingfish"). He replaced him with Dr. Arthur Vidrine, a young practicing physician in Evangeline Parish and a graduate of Tulane Medical School, who trained at Charity Hospital and was a Rhodes Scholar. In July 1929 Vidrine supported his alma mater's request of assigning fifty

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[63] John E. Salvaggio, *New Orleans Charity Hospital, a Story of Physician, Politics and Poverty* (Baton Rouge: LSU Press, 1992), 110-112.

[64] Salvaggio, 110.

[65] Robert C. Klein, *A History of LSU School of Medicine* (New Orleans: Authorhouse, 2000), 1-2.

beds at Charity Hospital for the clinical rotations of Tulane students, but this show of cooperation was short-lived when Tulane's recently appointed, well-regarded Chief of Surgery Dr. Alton Oehsner's privileges were removed by Vidrine. The reason given was because of control issues of hospital appointments made by Tulane's medical school conflicting with the hospital's state administrators.[66] This action catalyzed Long's intention to proceed with his plans to use Charity Hospital beds for the clinical education of his proposed medical school. In 1930 he expedited legislation to create his proposed medical school "with little discussion" and proposed Dr. Vidrine to serve as the school's first dean.[67]

Governor Long met with the LSU Board of Supervisors in early January 1931, and together with the architects, coordinated the construction of the new medical school, to be located adjacent to Charity Hospital in New Orleans. Long agreed to be responsible for funding the project, stating "that funding will be my job. . . You have to dare a bit if you build this school."[68] Long was aware that an uncertain economy was a harbinger of a worsening depression.

The Charity Hospital Board contributed a section of its vacant land for the site of the LSU Medical Center, and the major financing for the nine-story building came from the Baton Rouge campus sale of surplus land to the state for $350,000, which became the site for the new state capitol building. A larger plot of campus land was sold to the State Highway Department, and although the LSU Board did not totally endorse the land sale and the Highway Department had no immediate plans for the land, the governor was pleased he secured the necessary funds

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[66] Salvaggio, 105-107.
[67] Salvaggio, 113; Klein, 2.
[68] Salvaggio, 110.

for one of the "outstanding accomplishments of my administration," although his scheme for procuring these funds was "probably quite illegal," according to the *Times-Picayune*. [69] The newspaper accused the governor of stealing a million dollars from the Highway Trust Fund to finance the building of his medical school. Long forcefully countered that it was a "damn lie" that the amount he negotiated with the Highway Trust was two million dollars.[70]

Construction on the medical center begin in March 1931, and when it opened for classes the following October, only the first floor was completed for the freshman class of fifty students. Undaunted by his political enemies, a tenacious press, and Tulane's medical hierarchy, the governor answered his critics, "Publish what you want but we will have a medical school for the poor boys of Louisiana."[71]

Named the Medical Center Science Building and ready for occupancy in 1934, this ten-story and basement stone-faced structure was built alongside the century-old state Charity Hospital complex, which comprised thirty separate buildings containing eighteen hundred patient beds. Each floor of the new Medical Center had specific functions for locker rooms; preclinical laboratories; administrative offices; a medical museum housing anatomical and pathological specimens; and most important, the Agramonte Memorial Library with its fifteen thousand volumes and reading rooms built to accommodate one hundred students and faculty. The remainder of the medical center was designed for educating preclinical students and for surgical suites on separate floors to provide for both clinical patients and research animals. The structure

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[69] Salvaggio, 112.

[70] Klein, 2.

[71] Robert J. Miciotto, *The LSU Medical Center 1931-1981: This I Remember*. Unpublished Manuscript, 1981. Ische Archives, Call #W19L93m 1981, LSU Health Sciences, New Orleans, Louisiana.

was a showcase for state-of-the-art innovations in medical architectural planning and building design, which included air conditioning in the operating rooms and a lighting system that provided UV light to mitigate the potential for airborne staph sepsis during prolonged procedures. The building's design and innovations served as a "pathfinder" model for future medical centers.[72]

While much attention was focused on the construction and financing of the new medical center, Dean Vidrine was busy recruiting a creditable faculty, mainly by raiding his neighbors' (Tulane) promising younger staff, many of whom would become future department heads. Included in this group was Aristides Agramonte as Chief of Tropical Medicine, a Cuban import and known for his research on yellow fever. A key recruit, Dr. Urban Maes from Tulane, to become Chief of Surgery was initially turned down, and Vidrine subsequently settled on Emmett Lee Irwin, who was also spirited away from Tulane. This move was soon regretted, however, and realizing the importance of a surgical chief, Vidrine, with the Governor's help, reapproached Dr. Maes to take the position, which he agreed to, on certain conditions: Dr. Ochsner was reinstated to the Charity staff, and Governor Long quit meddling in hospital affairs.[73] All was agreed upon, although the firing of Dr. Irwin created bitterness. He was offered the head surgeon position for the state's Dock Board by the governor in compensation, but he rejected the offer, stating, "To hell with it, I quit." Despite this rancor and a bitter letter that he sent to Dean

[72] LSU School of Medicine New Orleans, "A New Medical School in the United States," *Journal of Tropical Medicine and Hygiene*, March 1, 1934, 1-3; Salvaggio, 112.

[73] Klein, 3.

Vidrine, the advice to obtain Dr. Maes as head of surgery was solid, and the new institution was granted full, Class "A" accreditation in early 1933.[74]

The medical schools' dedication was postponed until May 1932 to coincide with the AMA Convention being held in New Orleans, and the governor organized the ceremonies as a public relations event to impress the visiting dignitaries, which included officers of the accrediting agencies. His speech promising "friendly relations" all around was an attempt to improve relations with the crosstown Tulane Medical School upset over the recent unpleasantness involving Charity Hospital and the poaching of Tulane's medical faculty.[75] The controversial governor was also being publicly criticized by the influential *Times-Picayune* for providing free medical care and private accommodations at Charity for his friends and political allies, people who had the financial resources to pay their hospital bills. The newspaper's editorials also accused Governor Long of charging a surtax, known as a "deduct," on state employees' salaries, which included Charity Hospital's staff, that he used to finance his political campaigns, including his successful run for the Senate that year.[76] Although he continued to make feeble attempts to make amends with Tulane's medical school hierarchy, his assassination on September 10, 1935, ended any hope for resolution.[77]

Despite the country's crippling Great Depression, the LSU School of Medicine (LSUSOM) made excellent progress, doubling its initial enrollment of 109 students in its second year of operation, and by the mid-1930s was educating over 900 students in its four-year

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[74] Salvaggio, 115.
[75] Klein, 5; Miciotto, 6.
[76] Salvaggio, 112.
[77] Salvaggio, 116-117.

program. The quality of its students also improved as all candidates for admission were required to pass the AAMC's medical aptitude test.[78] In 1937 Dean Vidrine was replaced as both Dean of the Medical School and Superintendent of Charity Hospital by Dr. Rigney D'Aunoy, who had served as Vice Dean and Chair of Pathology. Following a site survey visit by the AAMC in 1939, the Dean was roundly criticized as an unsparing taskmaster by students and faculty alike, one with "dictatorial methods."[79] Equally disturbing to the AAMC was LSUSOM's highest student failure rate in the country after D'Aunoy became Dean, ranging between 39 and 47 percent.[80] D'Aunoy resigned his deanship but continued to maintain his reputation as a brilliant scientist and was later recognized by the American Society of Clinical Pathologists for his research.[81]

Within weeks of Dean D'Aunoy's resignation, he was replaced by Dr. Beryl Burns, the Chairman of Anatomy at the LSUSOM, a respected academician who was well liked by his faculty colleagues and students. One of his initial policy changes, as suggested by the AAMC, was to have the senior medical students awarded their M.D. degrees upon graduation, removing the requirement of having to first complete an internship. His stated policy during his tenure as Dean from 1939 to 1945, which covered the crucial war years, was "to maintain, not to improve" the institution during this hectic period. The new Dean, however, lost the services of an exceptional Professor of Medicine, Dr. Rudolph Kampmeier, to Vanderbilt's medical faculty,

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[78] Salvaggio, 117.

[79] Klein, 15.

[80] *Louisiana State University School of Medicine, New Orleans, Report of the Dean* (New Orleans, 1939) 5-20, Ische Archives, #W19L93r1939. New Orleans, Louisiana.

[81] Salvaggio, 124.

where he authored the classic text, *Physical Diagnosis*, although he returned to LSU periodically as Visiting Professor of Medicine.[82]

From his conception of LSUOM in 1930 to his untimely assassination in 1935, Governor, then Senator Long in 1932, continued his role as benefactor and godfather of the medical school, which he and his loyal adjutant Dean Vidrine designed to deliver healthcare to the underserved citizens of Louisiana. After Senator Long's assassination this involvement continued with the creation of the Department of Public Health by Dean D'Aunoy in 1938, when he hired as chairman, Dr. George McCoy, the former Director of the U.S. Public Health Service and National Institutes of Health. The Department gained traction during the critical war years, as the port city of New Orleans avoided epidemics and serious health issues through the measures adopted by the medical school's public health department. Dr. McCoy, prior to becoming an administrator, made his reputation in research, discovering the infectious agent linked to the disease *Tularemia*.[83]

Prior to his death, Senator Long had planned for a dental school, nursing school, pharmacy school, and a graduate school of medicine to be located near the medical school, but all except the last of these were delayed until after the war. A Department of Nursing was developed in 1937 to function as a liaison between the Baton Rouge campus and the Charity School of Nursing.[84] Student health issues surfaced in the early years of the medical school's operation, manifesting as an unusually high incidence of tuberculosis and gastrointestinal maladies. The student housing bordering the medical school and hospital was criticized as

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[82] Klein, 16; Miciotto, 8-9.
[83] Klein, 12.
[84] Klein, 12-13.

"deplorable" with crowded conditions and proximity to Charity Hospital, raising the specter of being a likely source for the high rate of communicable diseases among students. Further studies in 1938-39 revealed a 98 percent radiological incidence of tuberculosis among seniors, 94 percent among juniors, 90 percent among sophomores, and 68 percent among freshmen, although only 9 percent of students demonstrated active disease. The Department of Tropical Medicine revealed 10 percent of students harbored intestinal parasites. These impressive numbers helped to establish an aggressive health program, as the New Orleans climate combined with suboptimal living conditions being adjacent to a large charity hospital necessitated preventative health interventions.[85]

The first graduation class of the new medical school in June 1933 were the twenty-eight seniors who previously transferred from two-year preclinical schools to complete their clinical training, and in the spring of 1935, LSU graduated their first four-year class of seniors.[86] The clinical experience for both students and house staff was excellent and plentiful at Charity Hospital. The number of outpatient clinic visits almost doubled to 475,000 by 1935, and the following year the inpatient admission rate exceeded 70,000, greater than Cook County General (Chicago), Bellevue General (New York), and Los Angeles County General hospitals. Overcrowding was rampant, as Charity's daily bed capacity of 1,814 was exceeded by almost 1,000 patients daily, which taxed both the LSU and Tulane medical student services.[87] Additional obstetric experience was gained by the students who participated in the Home

[85] Klein, 10-11.
[86] Klein, 9.
[87] Salvaggio, 125.

Delivery Program for expectant mothers, which proved especially helpful among those who chose to eventually practice in rural areas.

It became apparent by the mid-1930s that Charity Hospital and its antiquated structure, advanced age (several sections were a century old), overcrowding, and general disrepair, required the city's leadership to find a solution for this deepening problem. The city government and Sister Stanislaus, "the grand lady of Charity Hospital," approached the Roosevelt administration for the federal government's assistance to finance construction of a modern Charity Hospital, using Louisiana's "full share" of Works Progress Administration's (WPA) funds. In the presidential election year of 1936, the WPA granted Louisiana $3.6 million, or 45 percent of the estimated cost of building a new Charity Hospital.[88]

Construction of the 57,000-square foot, twenty-floor structure began in July 1937, eventually providing 2,680 beds to become the second largest hospital in the United States. In addition, a fourteen-story school of nursing was constructed nearby with quarters for five hundred nursing students, pushing the total cost of the project to almost $13 million. The limestone and brick structure was completed and ready for patients in July 1939. The hospital architects, who also did the work on New York's Bellevue Hospital, used a similar design for the new Charity except for ward modifications to conform to the Jim Crow laws of Louisiana.[89]

Upon completion of the hospital, several of Huey Long's "boys" were caught in scandals and criminal conduct resulting in jail time. The President of LSU, James Monroe Smith, who was instrumental in the founding of the medical school and promoting the new hospital, was

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[88] Salvaggio, 131-132.
[89] Salvaggio, 135.

found guilty of illegally purchasing grain futures with bank loans backed by LSU bonds using forged signatures. An FBI investigation also uncovered the embezzlement of public funds involving Charity Hospital that snared Long's successor and ally, Governor Richard Leche, which sent him to prison.[90] So even in the aftermath of the Kingfish's assassination, the most valued of his social projects had a legacy of controversy, malfeasance, and criminality.

The Special Case of the Reform Movement: Survival and Maintenance of Meharry's Medical College

In the aftermath of the Civil War, Nashville, Tennessee, became the site of two institutions of higher learning for the newly emancipated African Americans of the region. The first of these was Fisk College, established in early 1866 and initiated by the Freedman's Bureau of the federal government. Later that summer the Central Tennessee Methodist Episcopal College (CTMEC) was founded as a joint project of the Missionary and Freedman's Aid Societies. Both colleges were intended to educate black students and provide teachers throughout the segregated South to benefit the developing black communities. The fledgling CTMEC, funded by a $21,500 grant constructed a two-story, fifteen-room building for classrooms and living spaces on the site of a small campus nearby.[91]

By the early 1870s the institution was renamed Central Tennessee College and offered advanced coursework, which included algebra, geometry, and the natural sciences (monitored by

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[90] Salvaggio, 136.

[91] James Summerville, *Educating Black Doctors. A History of Meharry Medical College* (Tuscaloosa: University of Alabama Press, 1983), 5-12.

examinations), and had become a more prestigious institution with more demanding entrance requirements for prospective students. At about this time, it became apparent to the college's sponsors that there also existed a need for trained black physicians to provide healthcare for black citizens, especially those in crowded urban environments uniquely vulnerable to the epidemics of yellow fever, malaria, typhus, and diphtheria sweeping black communities.[92] During slavery, medical care, albeit primitive, was provided by the slave owners to maintain their workforce, but these "perks" were abandoned with the passage of the Thirteenth Amendment, and white physicians practiced mainly among the white community.

As legend has it, the Meharry family, prosperous white religious midwestern farmers also recognized the need for professionally trained black doctors in the postbellum South, and members of the family were appointed by the Methodist Episcopal Church and Central Tennessee College President Rev. John Braden to help fund a black medical school in the South. The president remembered an occasion in the past when "a kindly Negro family" provided shelter and assistance to one of the Meharry brothers when his loaded wagon broke down on a wilderness road. Recalling this kindness, the Meharry family responded generously by donating $30,000 and real estate in Nashville to finance a Medical Department for the Central Tennessee College. Classes began in October 1876, and the department was renamed the Meharry Medical College at Central Tennessee in 1879 in honor of the Meharry family.[93]

Flexner visited the medical school on his inspection survey in January 1909, and noted that the institution had become the medical department of Walden University in 1900. While

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[92] Paul David Phillips, "A History of the Freedman's Bureau in Tennessee," (Ph.D. diss., Vanderbilt University, 1964), 101-104.

[93] Summerville, 16-18.

fourteen black medical schools had at one time or another operated in the late nineteenth century, only seven of these institutions were functioning at the time of the Flexner Report. While he found the other five black medical colleges in the South, both the missionary and proprietary types, to be totally inadequate, Meharry received a reasonably favorable evaluation. He observed the "fair laboratories for chemistry and physiology and highly creditable laboratories for bacteriology, histology, and pathology." Special praise was allotted to the anatomy department housed in "a separate frame building, well kept and devoted to anatomy." His summary concluded, "The equipment and general conditions reflected great credit on the zeal and intelligence of those in charge of the school and its several departments," but Flexner also noted that its clinical facilities were limited to only thirty-two teaching beds at Mercy Hospital.[94]

It was obvious in this survey that Flexner recognized the humanitarian and utilitarian need for a quality functioning black medical school in the South, where almost 80 percent of the country's African Americans lived. The only other acceptable black medical institution in operation was Howard University in Washington, D.C., and merely a trickle of black students were accepted at the country's remaining white medical schools. Flexner was so attentive to this issue of the small number of practicing black physicians in the nation's South that his report included a separate chapter, "The Medical Education of the Negro," voicing these concerns. In his pursuit of a quality medical education for prospective black doctors, he appealed to the self-interests of their white neighbors, noting that "ten million of them (Negroes) live in close contact with 60 million whites." Here Flexner made the case that the communicable diseases impacting the black neighborhoods would act as a "potential source of infection and contagion" for the

[94] Flexner, 307-309.

surrounding white population. He also stressed that the medical education of the black doctor should prioritize "hygiene rather than surgery" and "be imbued with the missionary spirit. . . they may play an important part in the sanitation and civilization of the whole nation. Their duty calls them away from large cities to the village and the plantation, upon which light as yet begun to break."[95]

Flexner's observations and the implications of his conclusions have recently been criticized as paternalistic and prejudicial because he encouraged black medical graduates to involve themselves more in the practice of preventative medicine, public health, and sanitation issues than in the actual delivery of medical and surgical care. To some this implied that black people lacked the capacity to perform the more challenging aspects of actual practice. According to one scholar, Flexner's assumptions have survived well into the twenty-first century in both the medical and lay communities, and those are "deeply implicated in the structural inequality that has systemically disenfranchised African-Americans in medical education." Flexner's report has also been criticized for being dismissive of five of the seven black medical schools he visited as "totally inadequate and in no position to make a contribution of value," and for suggesting their termination.[96] Flexner advocated quality and a reasonable opportunity to survive over continuing to keep subpar institutions afloat in a climate of limited resources. He concluded that while Howard and Meharry were "worth developing and until considerably increased benefactions are available, effort will wisely concentrate upon them. . . The upbuilding of Howard and Meharry

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[95] Flexner, 180-181.

[96] Jasmine Arrington, "The Flexner Report and the African American Health Experience: Black Collective Memory and Identity as Shaped by Afro-Cultural Trauma and Remembering," *Vanderbilt Undergraduate Research Journal* 10 (2015): 1-8.

will profit the nation in much more than the inadequate maintenance of a large number of schools."[97] Both the AMA and the wealthy foundation boards (including the Rockefeller, Carnegie, and Rosenwald) endorsed Flexner's evaluations and conclusion.

Functioning as the Meharry Medical Department of Walden University, the institution was led by the white professor-president, Dr. George W. Hubbard, who was able to husband "the slender resources at his command."[98] He was reminded by the Flexner Report of the urgent need for a hospital building with a well-equipped dispensary. Scraping together funds from prominent Nashvillians and friends of Meharry, the George W. Hubbard Hospital Association was formed, and with publicity effected by the city newspapers, enough funds were generated to begin construction of the hospital in April 1910. By mid-December the surgical theater, twenty-two rooms, and one hundred hospital beds were completed. Dedicated but unfinished in November 1912, gifts from Andrew Carnegie ($10,000), Julius Rosenwald ($1,000), and local physician Dr. Robert Fulton Boyd ($5,000), and the remainder donated by local churches and businesses, construction was completed by 1916.

The nursing school, organized in 1910, was transferred to the new facility[99] and benefitted from the medical school's acquisition of an "A" rating by the AMA's CME in 1911, contingent on further improvements in a timely fashion.[100] A repeat inspection by the CME in 1913, however, found the medical school to be remiss in obtaining the necessary updates, and the accreditation rating was reduced to a "B" rating. This action denied Meharry's graduates the

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[97] Flexner, 180-181.
[98] Flexner, 181.
[99] Summerville, 47-49.
[100] Summerville, 54.

opportunity to participate in taking licensing examinations in thirteen states, six of which were in the South where there was the greatest need for practicing black physicians.[101] Tenuous and meager financial resources were, again, the root causes of the black school's dilemma, but the institution's survival efforts benefitted from a reliable benefactor who would shepherd the unstable medical school through its financial difficulties.

Originally to be called the Negro Education Board, the Rockefeller Foundation's General Education Board was created in 1902 to support educational opportunities for Blacks, especially in the South.[102] In 1915, when Meharry became a totally independent institution and separated from the failing Walden University, the GEB and the Carnegie Foundation contributed $7,500 apiece to the cash-strapped medical school at the request of the Freedman's Aid Society, followed by disbursements of another $150,000 by both foundations in 1919 for the school's endowment fund.[103] Meharry became the "god child" of the GEB, and between 1916 and 1960, $8 million was contributed to the institution by the foundation, not including fellowships.[104] At the request of the GEB, the retiring President Dr. Hubbard was replaced by "a man of scientific training in medicine," who reorganized the medical school "along modern lines," and his replacement in February 1922, Dr. John T. Mullowney, fulfilled these criteria.[105]

Within nine months of Dr. Mullowney's presidency, marked improvements were noted on an invited inspection by Dr. N.P. Colwell of the AMA's CME. These included adherence to

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[101] Charles Victor Roman, *Meharry Medical College: A History* (Nashville: Sunday School Publishing Board of the National Baptist Convention, 1934), 125-128, 132-133.

[102] Raymond Fosdick, *Adventures in Giving: The Story of the General Education Board, a Foundation Established by John D. Rockefeller* (New York: Harper and Row, 1962), 5-8.

[103] Summerville, 55.

[104] Fosdick, 178-179.

[105] Summerville, 60-62.

rigid entrance requirements, a more energetic and engaged faculty, a greater involvement of Hubbard Hospital with the community by remaining open in the summer, and the addition of another dispensary, made available in 1923. These upgrades were made possible by $200,000 raised from the alumni, but these improvements also enabled Meharry to approach the major foundations for the big-ticket necessities.[106]

When Dr. Wallace Buttrick, president of the GEB, visited Meharry in early 1923, he recognized the hospital's need for rooms and equipment. He authorized the Board to fund the project, and in July, construction began, which included the relocation of the departments of obstetrics and pediatrics. Additional beds, new X-ray equipment, a morgue with autopsy rooms, elevators, call systems, and private facilities for the medical staff were obtained at a cost of $88,000, funded by the GEB and the Rosenwald Fund. Additional preclinical laboratories were gifted to the school, but to restore its "A" rating required a $1 million endowment, a definite challenge for Meharry. With a financial rescue plan submitted by the Methodist Church's Board of Higher Education for Negroes and approval by the AMA, Meharry's "A" rating was restored.[107]

Flexner made his preference known in his survey that independent medical schools benefitted by becoming organic departments of a university, not only as a source of funding, but also for the general intellectual development of the medical student. Most of the unaffiliated medical schools that survived the reform movement were able to achieve this goal. Although the GEB favored these affiliations and suggested such between black, co-ed Fisk University and

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[106] Roman, 128-132.
[107] Summerville, 63-64.

Meharry, the latter chose to be independent. Both schools were open to having their campuses in proximity to one another since they were geographically widely separated Fisk was located in predominantly black north Nashville, and Meharry was in a more southerly, racially-mixed area of town. Agreeing to this alternative, however, would require the building of a new medical campus adjacent to Fisk University. The GEB approved of this arrangement and appropriated $1.5 million for the venture, and together with generous contributions from George Eastman's Kodak Corporation, the Rosenwald Fund, and the Edward Harkness Foundation, construction began in 1930 for the relocation of the medical school to a six-acre site adjoining Fisk University.[108]

Ready for the fall term of 1931, the three new brick buildings housed the medical, dental, pharmacy and nursing schools in addition to the nursing students' dormitory and power plant. The relocated George W. Hubbard Hospital occupied four stories and included a large dispensary and one hundred eighty-five teaching beds. Fisk University's new library jointly functioned as a medical-dental library available for the Meharry students.[109]

Despite obvious improvements in its relocated physical plant, and a new emphasis in their curriculum on preventive medicine and public health issues, including children's venereal and chest clinics (to treat and prevent the spread of tuberculosis), Meharry lost its "A" rating following the AMA's CME-sponsored Weiskotten Report survey of the country's medical schools in the mid-1930s. This negative assessment cited faculty deficiencies in addition to organizational problems reflective of the school's administration, which led to the retirement of

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[108] Fosdick, 179.

[109] John T. Mullowney, "The New Meharry Medical College Plan, Nashville, Tenn.," *Journal of the National Medical Association* 22, no. 3 (July-September 1930): 146-147.

Dr. Mullowney in 1938 and the appointment of Dr. Edward L. Turner, another white president and dean of the medical school, who previously served as Chief of the Department of Medicine since 1936. His impressive CV included a M.D. degree from the University of Pennsylvania, preceded by B.S. and master's degrees from the University of Chicago. He was also involved in teaching and immunology research abroad.[110]

Early in his position as president and dean of Meharry, Turner prioritized greater roles for exceptional black staff for teaching and administrative positions. Over the next several years, blacks were appointed Chairs of surgery, pediatrics, physiology and biochemistry, and in 1939 Michael J. Bent, an African-American, became Associate Dean of the medical school. These progressive moves by President Turner were well-received by Nashville's academic community and publicized by the city's black newspaper, *The Nashville Globe*.[111]

Under Dean Turner the accrediting agency's entrance requirement policies were strictly implemented, which included passing scores on the Medical College Aptitude Test (the MCATs) and completion of premedical studies at colleges approved by the AMA. Prior to Dr. Turner's tenure as dean and president, Meharry's large freshman classes were experiencing an excessive 40 to 50 percent failure-attrition rate, a troublesome number that led to low morale among both students and faculty. It became the dean's resolve that every entering freshman who met the catalog qualifications and performed to his academic potential should be able to graduate with an M.D. degree.[112] Dean Turner also organized a summer postgraduate refresher program intended

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[110] Grace Harrison, "Hubbard Hospital and Meharry Medical College for Negroes, Nashville, Tennessee" (M.A. Thesis University of Chicago, 1945), 65-68.

[111] *The Nashville Globe*, March 31, 1944.

[112] Emma White, "Report to the Proposed Grading System at Meharry Medical College, 1939-1940," *Journal of the National Medical Association* 33, 1 (January 1941): 42-45.

for practicing black physicians in the South and Midwest, many whom were provided with grants and scholarships, to stay current in their medical acumen.[113] A similar program for surgeons was initiated in 1941 by Dr. Matthew Walker, assistant professor of surgery and gynecology, who would be promoted to Department Chair in 1944. A national campaign advanced by the GEB's Abraham Flexner and the U.S. Surgeon General Thomas Parran to raise its goal of $6 million for Meharry's endowment was successful.[114]

The faculty was also improved with the appointments of full-time clinical professors in addition to "borrowed" white faculty from neighboring Vanderbilt University's medical school. Up until the time Dr. Turner became the President-Dean at Meharry, both the dispensary and hospital were operating at only half their capacity, leading to the perception among many in the black community that the attending physicians were substandard, "either older men of limited background or young men of limited training." Turner reversed this misconception by hiring young and eager faculty adept in teaching, practicing, and research. These additions changed Meharry's image and attracted greater numbers of patients to fill the teaching beds and outpatient clinics to capacity. By 1926 Meharry's AMA rating and full accreditation were restored. Also, the improved quality of the black secondary schools in the south-central United States, although still suboptimal, provided a greater selection of better prepared candidates for admission to Meharry Medical School. [115]

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[113] Paul B. Cornerly, "Postgraduate Medical Education and the Negro Physicians," *Journal of the National Medical Association* 30, 1 (February 1938): 18-22.

[114] Summerville, 64.

[115] Raymond B. Fosdick, *Adventures in Giving: The Story of the General Education Board, a Foundation Established by John D. Rockefeller* (New York: Harper and Row, 1962), 180.

The GEB continued to maintain the institution's endowment and solvency, but a small revenue stream created by southern state governments ironically benefitted the black medical school in the aftermath of *Gaines* case (*Missouri ex rel. Gaines v. Canada*) decided by the U.S. Supreme Court in 1938. The decision affirmed that "the obligation of the state to give the protection of equal laws (to white and Negro students) can be performed only when its laws operate, that is within its own jurisdiction," and that the state was obligated to furnish "within its borders" facilities for education for both races that were "substantially equal." In compliance with the *Gaines* ruling, southern states began to provide alternate medical education opportunities for black students denied entry in their home states on the basis of race. Eleven southern states avoided this dilemma with their creation of the Southern Regional Education Plan, with partial funding by the GEB, which allowed those states to a set amount to out-of-state institutions for the education of black students. This stopgap method to comply with the *Gaines'* ruling was denounced by black leaders and the press "as an unabashed, shameful and effective way for the GEB to enable the southern states to escape or avoid their plain obligation to their Negro citizens."[116] This solution proved to be temporary, as the changing attitudes of the postwar years and civil rights legislation, ushered in democratic reforms that made educational opportunities for blacks and other disadvantaged minorities on an integrated basis.

Gone were the days when the education of blacks "represented a Yankee plot to impose an alien culture on a defeated region," or as a school superintendent in 1903 South Carolina admitted, "Let us not be hypocrites about it. . . we are against the academic education of the Negro. . . The object of true education is to raise the people to a higher order of civilization. . .

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[116] Ibid, 181-182.

There is but one end of the Negro problem, and that is that the inferior race must give way to the superior race. The only preservation is to keep him in a subordinate position."[117] Even President Mullowney expressed doubts about the competency of black physicians to take leadership roles in medical education, "Negroes have not yet developed many good disciplinarians or administrators, nor do they seem, as a general rule, to be as dexterous or as able to coordinate highly skilled actions with thoughts, nor are the majority of them blessed with compelling energy. The white men will need to act as heads of nearly all branches of clinical medicine for at least ten, possibly twenty years longer."[118]

Abraham Flexner and the board of the major philanthropic foundations (especially the GEB) did not share this perception and felt that with the proper education and training, the vertical mobility of black doctors was ensured. These proponents of black medical education realized the critical importance of the survival of Meharry Medical College. By the mid-twentieth century, nearly half of black physicians in the United States were graduates of the institution, and together with Howard University School of Medicine, accounted for four-fifths of the doctors caring for one-eighth of the country's population.

The key role of major benefactors for the creation of three southern medical schools and the maintenance of a fourth came at a propitious moment for a region with minimal economic resources. The South was not only underserved by both the number and quality of its physicians, but also lacked the wealthy industrialists that other regions depended upon to fund expensive, local projects such as medical schools and hospitals. The years of the Great Depression and the

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[117] Ibid, 183.

[118] John J. Mullowney, *America Gives A Chance* (Tampa: Tribune Press, 1940), 164.

lead-up to World War II were economically especially difficult. The South met these challenges due mainly to the efforts and vision of local benefactors and timely assistance from national philanthropies and the federal agencies. This trio of support continues its robust involvement in medical education in the United States.

It is interesting that Flexner's incendiary *Bulletin Number Four* surfaced historically at a time that progressive reformers were informing the public through their muckraking journalism of important issues impacting their health and lives. Flexner did much the same thing as his inspection survey exposed substandard and, in some instances, fraudulent practices in their medical schools that impacted the public that was previously unaware. He certainly has been given credit for catalyzing a process that was ongoing since state health boards became involved with medical education reform in the latter decades of the 19th Century. The yardstick of his choosing was the German statistical data to determine the ideal physician to population ration which proved faulty and irrelevant for the American South when he concluded the nation had an excess of physicians, ignoring local geography and both the quality and maldistribution of these doctors.[119] His report emphasized the elimination of substandard institutions instead of bringing them up to standard, and this challenge to reform and survive was met by the administrative leaders (deans, chancellors, and presidents) of the vulnerable schools.

Many of second tier proprietary southern medical institutions were fully aware that they were targeted for extermination if they were unable to reform their programs to meet the expectations of the "Reform Coalition." Education reform was expensive, and shedding their proprietary model in favor of becoming an organic department of a state university was an

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[119] William G. Rothstein, *American Medical Schools and the Practice of Medicine: A History* (New York: Oxford University Press, 1987): 119-120.

important hurdle on the path of survival. Employing unique survival strategies such as merging with a nearby medical school and pooling resources, and interfacing with state and local politicians to push for adoption and funding with the state university became a mainline strategy. These medical school deans and college presidents also worked tirelessly to gather local support to help fund the infrastructure and the educational component necessary to continue operation. To accomplish these goals, especially during a crippling depression in the country's poorest region was a tall order. Through the efforts of the medical school deans such as Robert Wilson (South Carolina), George Lombard Kelly (Georgia), Morgan Smith (Arkansas), Arthur Ford (Louisville), Coy Carpenter (Bowman Gray) and William T. Sanger (MCV), the majority of the middling southern medical schools reformed their programs in order to survive and continue their mission of supplying the region with well-trained and competent physicians.

EPILOGUE

When the United States declared war on Japan following the surprise attack on Pearl Harbor in December 1941, the eleven southern states accounted for fourteen complete medical schools and three "half" institutions. This total was a far cry from the five (including the special case of Meharry) medical schools allotted by Flexner in 1910 to provide physicians and healthcare for the eleven southern states. Using the German statistics for the model physician to citizen ratio of 1:1,500, this ideal ratio did not account for the maldistribution of doctors in the southern states, as increasing numbers of physicians elected to live and practice in more urban settings. They wanted to take advantage of the educational and cultural activities for their families that the small towns of the rural south were unable to provide. In addition, there were professional resources available to the physician in terms of a well-run and equipped hospital, the opportunity of group practice, and the social and educational amenities offered in a large town or city.[1] The transportation provisions in rural America were suboptimal compared to the German system, again contributing to the poor access for patients to urban-based doctors. Flexner's limiting the number of physicians as a biproduct of shuttering substandard medical schools also did not take into account the population growth in the country, as a whole, through immigration and high birth rates, interrupted only transiently by the immigrant quotas imposed by the National Origins Act of 1924 and the Great Depression.

What occurred in the South, however, through the era of what is considered medical education reform, to the cusp of the country's involvement in World War II, was that there were fourteen complete medical schools operating in eight states, and three preclinical two-year

[1] Paul Starr, *The Social Transformation of Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry* (New York: Basic Books, Inc., 1982), 125-127.

schools functioning in three states. Of the three new four-year medical schools developed in the South after the Flexner Report, all were organic departments of universities (Duke, Louisiana State, and Wake Forest Universities), and of the five medical schools resulting from mergers, four became organic departments of universities (University of Tennessee, University of Louisville, Emory University, and the University of Arkansas), while the fifth, the Medical College of Virginia, maintained its status as a state-supported institution. The last of these, the Bowman Gray School of Medicine, had enrolled its first freshmen class of students in the Fall of 1941, and three months later the United States was committed to a devastating two-front war that would last for the next four years.

Sixteen million men and women of the United States served in the armed services that included fifty thousand physicians.[2] These doctors comprised graduates of accredited medical schools that provided the military with the requisite medical corps educated in state-of-the-art medical science. It was fortunate that the southern states were represented by fourteen complete medical institutions instead of less than half that number recommended by Flexner in his 1910 report. In addition, it was propitious that the state and federal licensing boards and the AAMC were able to resist the persistent efforts of the AMA during the reform cycle to decrease the supply of American-trained physicians. Still, the South's access to adequate numbers of physicians and hospital beds was somewhat compromised during the war years.

With the war raging in Europe after September 1939, defense preparedness became a concern of the AMA and federal government. By the mid-1940s, medical schools'

[2] Charles C. Bolton, *Home Front Battles: World War II Mobilization and Race in the Deep South* (New York: Oxford University Press, forthcoming 2024).

administrations were requested to draw up "essential lists" of necessary faculty required for teaching prospective doctors should the country find itself at war.[3] After Pearl Harbor, in order to accelerate the supply of doctors needed for the war effort, the Army Specialized Training Program (ASTP) and the Navy V-12 Programs were initiated, and participating medical students, in their military uniforms, began attending school on a continuous thirty-six-month basis, in order to graduate in three years and accept their officers' commissions. They were then required to complete a twelve-month internship before being called to active duty. While in medical school, these students received $50 per month plus tuition, fees, and books, which was both a boon for the students and their cash-strapped medical schools. After their basic and "battlefield" medical training, these newly minted military doctors would usually be assigned to their medical school's unit overseas, e.g. Vanderbilt's 300th General Hospital Unit, Tulane's 24th General Hospital Unit, Duke's 65th General Hospital Unit, etc.[4]

Most likely, Flexner's pronouncement, with the release of *Bulletin Number Four* in late 1910, that the South should be limited to five medical schools, sent a message to the region's substandard institutions to reform their programs or risk elimination. An irony, however, was that Flexner's remarks in the General Considerations sections of his report, suggested several mergers between pairs of the better, albeit, substandard proprietary schools, to pool their resources (including their money, endowments, property, and better faculty) to survive. He also

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[3] W. David Baird, *Medical Education in Arkansas, 1879-1978* (Memphis: Memphis State University Press, 1979), 182-185.

[4] Lewis Rosenfeld, *The Fighting 300th: A History of Vanderbilt University Medical Unit During World War II* (Nashville: Vanderbilt University Medical Center, 1985), 8; John Duffy, *The Tulane Medical Center: One Hundred and Fifty Years of Medical Education* (Baton Rouge: Louisiana State University Press, 1984), 166; Deryl Hart, *The First Forty Years at Duke in Surgery and the P.D.C.* (Durham: Duke University, 1971), 19; James F. Gifford, Jr., *The Evolution of a Medical Center: A History of Medicine at Duke University to 1941* (Durham: Duke University Press, 1972), 184.

encouraged the doctor-administrators to develop hospital affiliations with committed clinical teaching beds and to strictly adhere to approved admission and graduation requirements. Flexner was also firm in that the merged institution abandon their failing proprietary model in favor of becoming an organic department of a university and that did not require much convincing. Flexner also noted that a successful (surviving) merger would require an involved community responsible for civic, economic, and psychological support.[5] This model proved remarkably successful with merged medical schools located in the larges southern cities of Richmond, Memphis, Louisville, Little Rock, and Atlanta.

The other model for reform and survival was for the substandard, proprietary medical school, parading as a state university department, to become an organically-affiliated part of the state university approved by their state legislature, which was successful for the medical schools in Charleston, South Carolina, and Augusta, Georgia. When Flexner became Secretary of the GEB in 1913, even though personally approving of the mergers, he made it policy not to commit the Foundation's funds to subsidizing these fledgling, marginal institutions. Instead, the GEB targeted its grants to the better institutions that would serve as templates for the regional medical schools to follow.[6]

The South (and country) would have benefitted during World War II by a greater number of medical schools, providing doctors not only for the uniformed services in combat roles, but also for the civilian workers in the defense plants and the military installations that dotted the southern landscape and seashores. In addition, there was the native population that required the

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[5] James J. Smith and Lucy S. Shaker, *Looking Back, Looking Ahead: A History of American Medical Education* (Chicago: Adams Press, 2003), 125.

[6] William G. Rothstein, *American Medical Schools and the Practice of Medicine: A History* (New York: Oxford University Press, 1987), 163-168.

routine civilian health care delivery in a region known for high incidence of endemics of hookworm disease, infectious epidemics, tuberculosis, syphilis, and infant mortality disease(s). Designated a war production town, Pascagoula, Mississippi, with its huge shipbuilding industry, taxed the health care delivery system with its unique blend of industrial-related accidents, including flash burns due to welding equipment, ocular foreign body injuries, and pulmonary diseases due to exposure of lead-based and zinc chromide paint fumes. Most of the health hazards were experienced in greater numbers in the black community and could have been preventable or easily mitigated with an adequate complement of health providers.[7]

Observing these exigencies related to the world war, it was opportune that greater medical resources from the southern states were available, although not optimal, to meet the challenge. Not only were there more complete medical schools, including four regional medical centers, but the quality of the institutions was assured by the standardization of their teaching programs and facility upgrades implemented in the Age of Medical Reform.

[7] Charles C. Bolton, *Home Front Battles: World War II Mobilization and Race in the Deep South* (New York: Oxford University Press, forthcoming, 2024).

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