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The University College of Medicine in Richmond, Virginia, 1893-1913 : a study of institutional decline

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A Dissertation

Presented to

The Faculty of the School of Education

The College of William and Mary in Virginia

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Education

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by

Byron Lee Woodruff

March 1986

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TABLE OF CONTENTS

Dedication

This report is dedicated to the people who have been associated with providing medical education throughout the Commonwealth of Virginia and to my parents.

ACKNOWLEDGMENTS

The completion of this study has involved the assistance and cooperation of many individuals. Special thanks are expressed to the members of the Committee. Dr. Paul Unger, Dr. Paul N. Clem, and Dr. John R. Thelin have spent considerable time and shown much encouragement during the project.

Gratitude is expressed to Dr. Paul Unger whose long hours, extreme patience and suggestions while reading the manuscript enabled me to keep in perspective the work to be accomplished and to meet the deadlines that had been set. Dr. Clarence Maze, President of Richard Bland College, Dr. James B. McNeer, Dean of Academic Affairs at Richard Bland College, and Dr. Cornelis Laban, Chairman of the Division of Natural Sciences and Mathematics also provided encouragement throughout the study.

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Finally, thanks and appreciation are offered to my family who encouraged me throughout my studies and writing.

CHAPTER I

INTRODUCTION

The period from 1890 to 1920 appears to have been rich in the development of certain technical aspects of higher education in the United States. This period followed and drew upon the Morrill Land Grant Acts of 1862 and 1890; the founding of the Johns Hopkins University and medical school in Baltimore, Maryland; the growing influence of the German university with emphasis placed on research and specilization; and the beginnings of what writers frequently refer to as an era of public service.

Throughout America generally, medical training of physicians moved towards professional maturity during the latter half of the nineteenth century. The respective roles of specific colleges and universities along with licensing agencies and professional associations helped to mold medical training into forms that are familiar today. The medically related societies, licensing associations and a leading group of colleges began to share common aims, such as standardization, including upgrading entrance requirements into the profession, prescribing curricula in the medical schools, suppressing the weakest institutions, reducing the number of students graduating from medical schools, and certifying physicians. By 1920, forces from private groups such as the Carnegie Foundation for the Advancement of Teaching

and from professional organizations as the American Medical Association (AMA) and similar groups interested in medical education had an impact upon the entrance requirements for medical schools.[1]

In Virginia at the beginning of this period, the existing medical schools were the medical department of the University of Virginia in Charlottesville and the Medical College of Virginia in Richmond. The former offered medical education which appeared to be more academic in nature than clinical to a small number of males. The school was located in a rural region of the Commonwealth and was lacking in the clinical quality and variety of instruction that would be more readily available in a more urban area. The Medical College of Virginia (MCV) was located in a more populated area, and although it had access to a potentially large variety of clinical subjects, this was not fully realized. The program, therefore, was perceived as weak by some writers.

To offset the migration of southern students into northern medical schools, to produce superior southern physicians, to make use of the clinical potential of the urban Richmond area, and perhaps, as a means of attracting patients, a rival medical school was founded in 1893. It rapidly acquired status within the state, attracted more students than either of the other two schools, and offered curricular and administrative modifications that would later be copied by the nearby competitor, MCV. This institution was first called the College of Physicians and Surgeons, but was soon renamed the University College of Medicine. It existed for only 20 years.[2]

Purpose of the Study

The University College of Medicine (UCM) was created in the midst of a national medical reform movement. In ways the institution directly contributed to the reform of medical training in Virginia. It is ironic, however, that despite its contributions it disappeared. The purpose of this study is to examine selected factors that affected the decline of UCM in Richmond, Virginia, from 1893 to 1913.

It is the writer's contention that the decline of UCM happened because the political pressures emerging from accrediting agencies, licensing and examining boards, and related organizations contributed to the decline of the institution. Politically, medical schools were being forced into a standardized mold largely through the efforts of the AMA's Council on Medical Education (CME), the Association of American Medical Colleges (AAMC), through the Carnegie Foundation for the Advancement of Teaching, and through related efforts of selected licensing and examining boards. The character of the institution was being modified through coercive changes to conform to accreditational standards. In addition to political questions, other elements may have contributed to the decline of UCM.

A second hypothesis to be examined is that the curricular and structural pressures from accreditation requirements became oppressive and led to the decline of UCM. From the standpoint of accreditation, as with associational membership, the curricular requirements expanded.

It became increasingly difficult to maintain educational standards of the Council on Medical Education, the Association of American Medical Colleges, licensing agencies, and those set forth in the Flexner Report. Therefore, the cost of a quality medical education grew beyond the amount received from tuition alone. Additional financial support was needed.

Further, it is hypothesized that the decline of UCM was affected because of the lack of a sound financial structure. Without such a structure, implementation of substantial improvements in both scientific and clinical teaching would not have taken place because of the high cost. Blanton maintains that "exhausted treasuries finally accomplished what the animosities of the two faculties had long prevented."[3] In 1913, the union of the two institutions was consummated and the old name, Medical College of Virginia, was retained. In his final commencement speech as president of UCM, Stuart McGuire noted that the reasons for the merger were neither numerical, physical, nor educational, but financial. Although the institution owned property valued at in excess of a quarter of a million dollars and its records indicated a surplus above its current liabilities, it had no significant income other than from student fees. It appeared that as medical instruction at the College improved, the more students it attracted, yet the more money it lost.[4]

Significance of the Study

The decision to pursue this dissertation topic as an academic program in higher education grew out of an interest in the history of

science and medical education. It appears that gaps exist in what has been written about medical education in Virginia. Therefore, this writing is an attempt to fill one of those gaps.

One may use history to understand the past and to try to understand the present in light of past events and developments. Historical analysis may be directed toward an individual, an idea, a movement, or an institution. According to Best such studies provide information concerning the effects of certain past educational practices and may have implications for future actions. An understanding of the history of education is important to workers in the field and perhaps others. It assists in one's understanding why educational movements have appeared and, in some instances, continue to prevail in institutions.[5]

A few brief historical accounts have described general features about UCM. Many of these have dealt with the formation of the institution, the staff, and some of the board members. However, nothing has been written about the institution's connection with any special educational movements or developments. There is a need for such a writing.

In a different area, Astin and Lee maintain that higher education, like most status systems in the United States, comprise a few elite and widely known institutions, a substantial middle class, and a larger number of relatively unknown "invisible" institutions. Although most Americans know the names of the prestigious institutions, few realize that one of the largest segments of the higher education population consists of relatively little known private four-year colleges. These

institutions are worthy of study simply because of their large numbers.[6] In a similar area, much has been written about the medical schools that are associated with universities such as Johns Hopkins, Harvard and others, but little has been written about smaller schools that existed fifty to one hundred years ago such as UCM in Richmond, Virginia.

Writers such as Caravati, Sanger and others have noted that an insufficient number of written accounts exist on accomplishments by the medical profession in Virginia. They further suggest that more work is needed in this area.[7] In another vein, Thelin claims that administrators have ignored or scorned historical studies as impractical. He notes that historians also must accept some blame for their discipline's isolation from advanced education for such fields as administration, law, medicine, public health, and city planning.[8]

In Abrahams' work on extinct medical schools of nineteenth century Philadelphia, William Frederick Norwood notes in the introduction, "comparable studies related to other major cities could and should be carried out where similar ephemerae characterize the local scene."[9] From sources such as these, it appears that a study as the one suggested in this writing is needed.

Scope and Limitation of the Study

A major consideration in the study was to establish an appropriate period for examination. The years 1890 to 1920 were chosen to

provide a reasonable time span from the establishment of UCM to its demise. This period followed and drew upon the Morrill Land Grant Acts of 1862 and 1890; the founding of the Johns Hopkins University and medical school in Baltimore, Maryland; the growing influence of the German university with emphasis placed on research and specialization; and the beginnings of what writers frequently refer to as an era of public service. The study was to conclude in 1920, ten years after the release of the Flexner Report of 1910, after the beginning of ranking medical schools by letter grades through the AMA's Council on Medical Education, after the publication of a significant number of state medical board examination results by schools, after certain reform efforts of the Association of American Medical Colleges, and seven years after UCM merged with the Medical College of Virginia.

Examination of other artifacts describing details of the decline of UCM not being available is viewed as a limitation. Likewise, the emotional nature of rivalry that existed between certain members of UCM and MCV could have had an effect in preventing certain details about personalities and situations from appearing in such literature as board minutes of the institutions and similar documents. Use of external criticism will be limited to the few extant alumni and others interviewed.

Method of Research

The historical method of research was used in writing about UCM. The study required a methodical search of documents as board minutes,

faculty minutes, newspapers, scrapbooks, and related works. These sources were gathered and subjected to external and internal criticism. The types of artifacts evaluated included:

1. Minutes of the Faculty of UCM and MCV.
2. Minutes of the Corporation of the College of Physicians and Surgeons.
3. Minutes of the Board of Trustees of UCM.
4. Minutes of the Executive Committee of the MCV after its consolidation with the UCM.
5. Minutes of the Richmond Academy of Medicine.
6. Plans for the new UCM building, McGuire Hall.
7. Newspaper articles.
8. Scrapbooks.
9. Correspondence between UCM and other organizations and people.
10. Financial documents.
11. Relics such as buildings, diplomas, and related artifacts.
12. Medical college annual bulletins and related publications.

Oral testimony was used to supplement the written data and served to verify evidence. Individuals chosen to be interviewed were early graduates of MCV. Also relatives of early students, former professors and other figures who exerted an influence on the college were used as resources. When possible, the interviews were taped. Some, however, consisted of written notes and telephone conversations. In all cases the persons being interviewed were asked for permission to use the majority of the information which they supplied. In instances where it was assumed that the nature of the material was too sensitive to be printed, or reflected an opinion which could not be substantiated elsewhere, it was not used.

Review of Related Literature

Several works were reviewed during the preparation of the proposed study. One such source was a dissertation written by Leroy

Walter Otto. The purpose of his study was to provide a complete and documented history of the origin, growth, development, and objectives of the medical college for Seventh Day Adventists from its founding in 1905 to 1950.[10] He examined the principal factors that contributed to the establishment of the institution, the objectives of the school, the major obstacles in achieving the objectives, and the curricular innovations of the college. In the current study, one of Otto's elements--factors--is broken into components of finance, political struggle, and curricular changes resulting from accreditation pressures.

The historical method was employed in Otto's study. Data were collected from letters of the college founders and administrators, board minutes, annual bulletins, and related documents. In the current investigation, similar artifacts were used; and, in addition, photographs, architecture and interviews served as supplementary sources.

Frank Thomas Stritter used the case history method to analyze the historical development of an academic program leading to the degree of Doctor of Medicine. He attempted to identify and document processes of change in the development of a curriculum and to discover those elements that caused college faculties to revise their educational philosophies.[11] In the current study, emphasis is placed on the kinds of factors that contributed to the decline of UCM, whereas, Stritter examined the curriculum in a more narrow sense.

Sources in Stritter's investigation included first the use of medical school annual bulletins. These helped the author formulate

an outline. Second, histories of American medicine and education and contemporary journal articles were studied to determine national trends in medical education. Third, general United States histories helped in determining national, social, economic, scientific and political developments. Fourth, archives and records were searched to determine thinking and developments that have influenced major revisions at a local level. Finally, medical educators of recent periods were interviewed to further supplement the resources.[12]

Similar sources are used in the current study. In addition, interviews were made with alumni of MCV, and they provided recollections of some of the tensions that existed.

The evolution of the academic program in Stritter's study was divided into five chronological periods: The Post-Civil War Era, 1872-1885; the German Influence, 1886-1900; the Progressive Era, 1901-1920; the Weiskotten Era, 1921-1945; and Expansion and Experimentation, 1946-1967. Each period was characterized by its own developmental factors, influences, trends, concerns and educators.

The current study overlaps with that of Stritter's by two periods, during the German Influence and that of the Progressive Era. During this period the quality of American medical education had become well known in Europe, and many American students looked to other countries for advanced study as they realized the inadequacy of their own educational institutions.

Within this period of Germanic influence, a variety of organizations concerned with improving the quality of American medical education increased their active efforts of reform. Stritter provided adequate background material that could be used in the present study of UCM. The more influential organizations included the American Association of Medical Colleges, the AMA's Council on Medical Education, the Carnegie Foundation for the Advancement of Teaching, and certain medical licensing boards. During this period measures to reform medical education began to emerge, especially from the efforts of the Harvard University School of Medicine and the Johns Hopkins School of Medicine.

The Progressive Era extended from 1901 to 1920, and it was during this time that UCM experienced part of its 20 year existence. Within this period a number of medical schools tried to improve their program in medical education. Stritter was helpful in the current study in establishing a background of development for medical education. His background helped to illuminate some of the deficiency that existed in Virginia medical education writings.

In a paper by Kenneth M. Ludmerer the reform of Harvard Medical School from 1869 to 1909 was examined.[13] The period of the Harvard study and that of the current investigation overlapped by sixteen years. Ludmerer analyzed reform measures by using the personalities of its presidents, faculty leaders and philanthropists. The writing by Ludmerer served as an informative document, but the current study used personalities as one measure of interpreting an event.

The materials used in researching Ludmerer's work included primary as well as secondary sources. They were represented by journal articles, book passages, senior and master theses, presidential reports, medical school annual bulletins, institutional committee reports, letters, faculty papers and memoir. Although the current study used similar resources, additional specimens included diplomas, photographs, architecture and interviews.

Ludmerer noted when the Harvard Medical School ceased to operate as an enrollment-driven business enterprise, primarily for faculty gain and began operating as an academic endeavor, its quality and progress began to improve. Coinciding with this, however, was the need to expand the required number of years of study to three each with nine-month sessions, and other curricular modification which emphasized the use of laboratory and clerkship instruction. Ludmerer sheds light on the fact that curricular changes may have had an effect on the operation of institutions. Such changes may have contributed to the decline of UCM.

Massie and Eiseman used colorful personalities who were the institutional leaders to describe the development of Transylvania Medical School.[14] Examination of ideas and leadership charisma of institutional leaders was used in the current study to gain insight into the reasons for the decline of UCM.

A bulletin edited by Thelma Vaine Hoke is noteworthy since it consists of a collection of pictures, letters, reports, speeches and a variety of documents illustrating the first one hundred twenty-five

years of MCV. It served as a collection of artifacts rather than a penetrating, analytical research report. A minor part of the work includes a brief description of the general history and pictures of UCM. Many quotes are used, but few references exist which let the reader know the source of the quotation.[15]

In a book by William T. Sanger, forty-five brief narratives and document excerpts describe fragments of a very broad range of subjects related to the development of the Medical College of Virginia before 1925. Some of the information given, however, appears to be of a more recent date.[16]

In another vein, the work by Wyndham B. Blanton should be mentioned here. This source represents the last in a series of three books embracing the history of medicine in Virginia. One chapter specifically addresses medical colleges, while a number of other references on medical education in general appear throughout the book. The work has been a source frequently cited in the literature describing the history of medical education and especially medical education in the South. A wealth of helpful references appear throughout the text and a useful bibliography is included. Blanton's work represents an excellent starting point for one who is seeking a broad understanding of the practice of medicine in Virginia before the twentieth century.[17]

Components of Blanton's work were used in examining the development of the University College of Medicine. However, the final thirteen years of the institution took place in the twentieth century

and were not treated by Blanton. Many of the elements contributing to the decline of the institution developed during these years and required investigating sources not provided by Blanton.

A more recent account of medicine in the Richmond area during the first 75 years of the twentieth century has been produced by Caravati. In this writing a chapter is devoted specifically to medical education in Richmond. Here, a brief history of the founding, operation, rivalry, and consolidation of the Medical College of Virginia and the University College of Medicine is given. In addition, a listing and description of certain professors, administrators, students, and educational endeavors of the schools were provided.[18]

Other topics in Caravati's work include a look at the history, organization, and library of the Richmond Academy of Medicine and the Richmond hospitals. In a similar vein, publications, public health, allied health professions, and voluntary health agencies, as well as the wartime service of certain Richmond physicians, were examined.

One particularly useful feature that Caravati provides is an account of the association that several of the previous physicians had with the two Richmond medical schools, whether they were former students or professors of one or both institutions. In some cases, a brief genealogy is included and involves the period before, during, and following the consolidation of the two medical schools. Such a feature helps the reader to obtain a clearer grasp of the generations of medical people that were part of the period and location.

Several of the above sources have been important and useful in presenting a number of brief historical descriptions of the University College of Medicine. Some have dealt with the formation of the institution, the staff, certain board members and other general features. However, little has been revealed about the institution's connection with any special educational movements or developments between 1890 and 1920 other than a casual reference to the Flexner Report of 1910. Since this was such a volatile and exciting period for medical education in Virginia, as well as nationally, an account of certain of the events needs to be recorded.

Organization of the Study

In Chapter II of the study there will be an examination of the political struggle that contributed to the decline of UCM. Politically, medical schools were being forced in a standardized mold largely through the efforts of the AMA's Council on Medical Education, the Association of American Medical Colleges, through the Carnegie Foundation's 1910 report by Abraham Flexner, and through related efforts of selected licensing boards. An examination of the development and influence that these organizations exerted toward medical education nationally is needed here in light of their significance to UCM.

Chapter III will deal with the manner in which curricular and structural pressures from accreditational requirements became

oppressive and contributed to the decline of UCM. The curriculum was being changed, through raising entrance requirements to medical school, adding to the school calendar, by modifying the subjects and similar educational requirements. Such pressures for change altered the image of the institution and affected its operation.

Chapter IV will examine how the lack of a sound financial structure by UCM stimulated its decline. It became increasingly difficult for the College to maintain the educational standards of the Council on Medical Education, the Association of American Medical Colleges, licensing agencies and those set forth in the Flexner Report of 1910. The cost of a quality medical education grew beyond the amount received from tuition alone. As medical instruction at the institution improved, the more students it attracted, but the more money it eventually lost. This created so much pressure that the institution's future appeared uncertain.

Chapter V will include a summary of the investigation, conclusions that have been drawn from the study, and implications for future research.

As the move toward standardization in higher education developed at the end of the nineteenth century, consequent curricular changes were made in medical schools in Virginia. It seems appropriate, therefore, that one should examine the proposition that UCM declined because of external pressures associated with these changes.

Footnotes

1. Rosemary Stevens, American Medicine and the Public Interest (New Haven, Connecticut: Yale University Press, 1971), p. 55.

2. Wyndham B. Blanton, Medicine in Virginia in the Nineteenth Century (Richmond, Virginia: Garrett and Massie, Inc., 1933), pp. 65-68.

3. Ibid. p. 68.

4. Stuart McGuire, "Address of Dr. Stuart McGuire at the Last Commencement Exercises of the University College of Medicine June 1913," June 1913, Sanger Papers, Medical College of Virginia, Richmond, Virginia. p. 6.

5. John Best, Research in Education, 4ed (Englewood Cliffs: Prentice-Hall, Inc., 1981), p. 131.

6. Alexander W. Astin and Calvin B. T. Lee, The Invisible Colleges: A Profile of Small, Private Colleges With Limited Resources (New York: McGraw Hill Book Company, 1972), p. 1.

7. Charles M. Caravati, Medicine in Richmond, 1900-1975 (Richmond: Richmond Academy of Medicine, 1975), p. IX. William T. Sanger, Medical College of Virginia Before 1925 and University College of Medicine, 1893-1913 (Richmond: Medical College of Virginia Foundation, 1973), p. 139.

8. John R. Thelin, Higher Education and Its Useful Past (Cambridge: Schenkman Publishing Company, Inc., 1982), p. 3.

9. Harold J. Abrahams, Extinct Medical Schools of Nineteenth Century Philadelphia (Philadelphia: University of Pennsylvania Press, 1966), p. 3.

10. Leroy Walter Otto, "An Historical Analysis of the Origin and Development of the College of Medical Evangelists" (Ed. D. dissertation, University of Southern California, 1962), p. 3.

11. Frank Thomas Stritter, "The Evolution of a Curriculum Medical Education in Syracuse, New York: 1872-1967" (Ph.D. dissertation, Syracuse University, 1968), p. 1.

12. Ibid. p. 85.

13. Kenneth M. Ludmerer, "Reform at Harvard Medical School 1869-1909," Bulletin of the History of Medicine 55 (1981) pp. 343-370.

14. Francis M. Massie and B. Eiseman, "History of the Transylvania Medical School: The Heritage of Medical Education in Lexington, Kentucky," The American Surgeon 31 (May 1965) pp. 299-306.

15. Thelma Vaine Hoke (ed.), "The First 125 Years: 1838-1963," Bulletin - Medical College of Virginia 61 (Fall, 1963).

16. William T. Sanger, Medical College of Virginia Before 1925 and University College of Medicine 1893-1913 (Richmond: Medical College of Virginia Foundation, 1973).

17. Wyndham B. Blanton, Medicine in Virginia in the Nineteenth Century (Richmond, Virginia: Garrett and Massie, Inc., 1933).

18. Charles M. Caravati, Medicine in Richmond, 1900-1975 (Richmond, Virginia: Richmond Academy of Medicine, 1975).

CHAPTER II

THE POLITICAL PRESSURES THAT CONTRIBUTED TO THE DECLINE OF THE UNIVERSITY COLLEGE OF MEDICINE

Politically, medical schools were being forced into a standardized mold largely through the efforts of the AMA'c Council on Medical Education, the Association of American Medical Colleges, through the Carnegie Foundation for the Advancement of Teaching, and through related efforts of selected licensing boards and confederations. One hypothesis of the study is to determine whether the political influence these organizations had on medical colleges and particularly the University College of Medicine led to its decline. The overriding issue here is to explore the notion that UCM declined partly because of the political pressures exerted by these several groups.

Near the turn of the twentieth century the AMA had established as semi-official policy the goals of eliminating commercial medical schools and reducing the number of physicians produced each year. In addition, a number of other organizations and individuals became concerned and active in these efforts. Major steps in this direction had been taken in the early 1880's by John H. Rauch, secretary of the Illinois State Board of Health. At that time the Board's Annual Report began to publish lists of institutions whose diplomas were not recognized in Illinois. It also made public the state board examination scores of the graduates of individual medical schools.[1] These measures

proved to be powerful forces locally since schools whose graduates performed consistently poor had increasing difficulties attracting students.

In a similar way this kind of political pressure for medical institutions to begin to conform toward some standard in medical education to receive the recognition they needed professionally would be used by other organizations such as the AMA's Council on Medical Education, the Association of American Medical Colleges, state licensing boards and confederations, and similar groups. In the following section influential medical organizations will be examined for purposes of ascertaining selected political pressures that emerged from them and that ultimately affected American medical colleges.

Council on Medical Education

One of the first steps to create pressure by the AMA to adhere to the Association's guidelines was to establish a national body to oversee reform. To secure reforms in the medical schools, the AMA needed to establish a national bureau whose action would increase publicity.[2] The work of the committees on education of the AMA before 1904 was not as satisfactory as it could have been. The temporary attention that the annually appointed committees gave to the problems of medical education did not appear adequate as far as making significant gains in medical reform. The CME had a permanent organization, with staff, appropriations, and a permanent headquarters.

On its first annual meeting the CME, in 1905, produced a standard for the "ideal" medical education to be used as a goal and a "minimum" standard to be used to work toward that goal. These standards are discussed in Chapter III. The publication of these standards by the AMA in its bulletin, the Journal of the American Medical Association (JAMA), served as a point of political pressure created by the Council and the AMA in its reform of medical schools. Institutional members of the organization were coerced to adopt such requirements. In addition, some of the affected institutions may have grown lax in following the rules.[3] These institutions would feel the pressures to change also. The AMA's Council would exert further pressure on these institutions by placing them in rank order according to quality.

A second annual meeting of the Council was held in 1906. A report was made regarding the need to rank medical schools in relation to their peers based on the results of state board examinations given to recent medical graduates and others. This information was published in JAMA for several years. The data included the number of students examined before the various state boards, the medical school from which they came, whether they passed or failed, and the ranking of institutions. In the first report, four classes of schools were recognized - Classes 1, 2, 3 and 4, with Class 1 being the best. A further explanation of these classes will be discussed in the following chapter. By publishing in JAMA the percentages of failures of those medical school graduates who took the state boards surely

created political pressure which forced many institutions to improve their standards.

In addition to establishing measures to force compliance, the Council became more directive with its decision to create on-site inspections. As the Council continued to examine the problems associated with medical education, it became apparent that a personal inspection of the 160 institutions had to be made in order to determine the character of the physical plants, their work and faculties, their general fitness to teach medicine and to rank them. This was probably one of the more important aspects of the Council's work up to this point.[4]

In making the inspections the Council was "exceedingly lenient in marking the poorer schools" and permitted acceptance of the standards in phases.[5] The Council felt that this first report should be presented to the third annual conference but should not be publicized with details at that time. The Council hoped that by behaving in this way a minimum standard on what should constitute a recognized medical school could be agreed on and that the institutions falling below the standard could be given a reasonable time to improve to the acceptable standard. In case they did not, their standing would be published, and they would no longer be recognized by the state boards.[6] Such an agreement was expected to carry a significant amount of weight because it would ultimately be agreed to by the majority of state boards and no school could defy the rulings of many state boards and continue to exist.

A number of deficiencies in institutions were found through inspections which demonstrated the need for a system of annual inspections that was thought might be made jointly between the CME and the state boards. It was also seen that the question of a reduction of the number of medical schools needed attention.

As a result of the report of the first inspection of medical schools, a certain degree of change in medical education was experienced. Fifty institutions agreed to require by or before 1910 at least one year of university physics, chemistry and biology and one language as preliminary studies before matriculating in a program of medicine.[7] Almost immediately a number of medical school mergers developed. In a similar area, as a result of some state boards refusing examination to their graduates, a number of institutions closed.

The general conditions, as indicated by the first inspection, were given the widest possible publicity so that the pleas of ignorance in regard to the demands of modern medicine would be viewed as unworthy consideration. The regular publication of frequently revised classifications was essential to secure many of the improvements in medical education.[8]

By 1909 the second tour of inspections of the medical schools in the U.S. was completed and provided additional data. From this study of extant conditions and with a view of the immediate needs of medical education, an outline of the "Essentials of an Acceptable Medical College" was prepared. This outline was regarded as a standard even though it was felt to represent a low average of the conditions which

actually existed. An ABC rating was used and based on criteria in a similar way that a civil service examination might be made. An explanation of the details of such a rating may be found in Chapter III of this report.

The CME believed that the time had come when the best interest of medical education demanded that this rating of institutions should be made public.[9] The ratings were published in JAMA, the professional journal of the AMA that was widely circulated throughout the American medical community. Publicizing the ratings was expected to produce a kind of pressure for the problem institutions. Their names would appear with an explanation of their assigned grade and this kind of exposure was expected to have successful results.

During 1911 the CME made its third inspection of medical colleges. It used the outline of the "Essentials of an Acceptable Medical College," which it had prepared based on results during its second tour of inspection. On the basis of this examination the Council was able to prepare a revised classification of medical colleges. This time the ranking of institutions was somewhat more sophisticated since the Council was beginning to qualify its ranks.

Results from the earlier investigations led the CME to believe that additional work was needed in investigating and reporting on medical schools. After the third visit the Council worked toward a further reduction in the number of medical schools. There were locations where mergers could be made since two or more medical

schools were competing for clinical facilities in local hospitals and neither were securing what they needed.

If the CME was going to create all those demands, it is apparent that help from outside the institution would be needed to provide financial support through private endowment, among other means. Another element contributing to the financial question was due mainly to the direction that teaching medical education was developing, that is, from a large-classed, mainly didactic setting to one of a laboratory-oriented setting with smaller classes. To achieve these aims, the CME saw that state aid and private endowment were needed for the medical schools. Operating an institution with only student tuition and attempting to modify the structure and curriculum of the school would be a nearly impossible task. The Council enlisted the services of the local and state medical societies, the state licensing boards, the national medical associations and individual physicians and citizens of influence.[10] Clearly, these political efforts were sought in order to create a pressure on the medical schools so they would conform to the standards, be forced to close, or make some other arrangements, such as possibly merging with other institutions.

It should be noted at this point that the Council served primarily as a council on education and not medicine. It was, in effect, a national agency on education and its influence touched not only medical schools but also secondary schools, colleges and universities.[11] The organization did more than any other single agency could have to weed out unfit medical schools, encourage full-time professors in

the scientific branches, to demand bedside clinical teaching and adequate laboratory and hospital training and facilities. The Council has been able to do this through hard work and also because it represented the medical profession of America. When this work was being performed, over half of the practitioners in the U.S. were members of the local medical societies who choose delegates to the state societies and these, in turn, choose the House of Delegates. The CME was a committee of this body, and its action had the weight of the entire medical profession. Universities, colleges and state boards have accepted the decision of the Council as the expression of the thought of the leaders of the profession in America.[12]

Up to this point, it is apparent that through the AMA's organization there was a desire for the CME to establish some of the early curricular changes among medical schools. Through pressures exerted the CME affected the structure of the institutions. However, this work occurred at a time when other organizations were making their weight felt in the field of medical education. An examination will be made of the efforts of some of these groups that attempted to change the field of medical education.

Association of American Medical Colleges

After earlier attempts made by the medical schools to organize themselves in order to improve their standards of medical education, the Association of American Medical Colleges was successfully established in 1890. To be a member of the association, medical schools had to require three years of medical study for graduation,

with the yearly term not less than six months long. In addition, each student was required to pass oral and written examinations, and laboratory work had to be required in chemistry, histology and pathology. Institutional members could no longer admit unqualified students. Entrance requirements included a 200-word composition, translation of easy Latin prose, and tests in higher arithmetic and elementary physics. Graduates of recognized colleges of literature, science or art, and normal schools were exempted from this requirement.[13]

These requirements were more advanced for many medical schools of the time, but to belong to this organization could be viewed as a sign of prestige. The level of these requirements were apparently high enough in 1891 to be accepted by the National Confederation of State Medical Examining and Licensing Boards (NCSMELB). This dual effort surely created a degree of reform pressure towards the medical schools that had not previously existed. Moral suasion had been unsuccessful in the past due to the absence of enforcing the decision of either the AMA or earlier AAMC. However, when the reform was made a requirement for licensing, rather than dependent upon the goodwill of the various medical schools, a better chance for success developed.[14]

The nationwide attempt at reform appeared to be developing in a more successful path than previously. This seemed to be supported by the fact that in 1894 the Illinois State Board of Health reported 96.3 percent of the medical schools required three or more years of study in 1893.[15] In a related area, the results of the state examining

boards indicated that 25 percent of the graduates of inferior colleges were not capable of passing the required examinations, compared with 1.5 percent of the graduates of the better schools.

In 1894, the AAMC ammended its constitution to require all matriculates to take an examination that included an English composition of not less than 200 words done in the applicant's handwriting, higher arithmetic, algebra through the level of quadratics, elementary physics and Latin. Graduates or matriculates of reputable colleges or high schools of top quality or normal schools established by the State authority, or students passing the entrance examination provided by the State of New York could be exempted from the requirement.[16] Five years later, M.D. candidates would be required to study medicine for four years and attend at least four courses of lectures of not less than six months for each session. The intentions of the AAMC were apparently becoming more forceful since the organization's secretary was authorized to cancel the registration of those colleges that were unable to provide the four-year curriculum.

As has been seen with the CME, similar reform efforts continued as the AAMC maintained that after July 1, 1910, students without an official diploma from a high school, academy, normal school or college giving an acceptable preliminary education would not be admitted. A good deal of flexibility probably existed when schools were determining what exactly was considered "acceptable," in the absence of any real standards among the institutions providing the preliminary education. Apparently requiring students to possess a diploma was viewed as a

means of elevating entrance standards and creating a pressure toward reform regardless of how small it might have been. Although these requirements were directed primarily at member institutions, one can see how elevated standards as these were likely to have some kind of influence on even non-member institutions to improve themselves also.

In similar fashion, the AAMC exerted pressure to conform through visitation. In 1904, the AAMC began visiting some of the medical colleges, and by 1905, the Association was requiring a standard medical curriculum of 4,000 hours. This move was apparently a favorable one with other organizations involved at improving medical education since the National Confederation of State Medical Examining and Licensing Boards had adopted the AAMC's standard curriculum.[17]

By 1907, the reform steps taken by the AAMC were more stringent than before and the Association began requiring four years of residence for an M.D. candidate in a medical school. The AAMC efforts began to correlate with the AMA's first classified list of medical schools on the ABC basis.[18] Not only were different organizations promoting reform measures, they were beginning to experience similarity in their desires.

Between 1900 and 1910, the demand for reform in medical education had begun to accelerate and involve a number of organizations. It became apparent among these organizations that duality was evolving and a few began to unite their efforts at reform. It was previously noted of the NCSMELB adopting the AAMC's standard curriculum. In a

similar vein, during 1913 the AAMC and the AMA's Council on Medical Education and Hospitals (formerly the CME) united their efforts and agreed that before admitting students to medical school, they would be required to have a preliminary college year of at least 32 weeks which included courses in biology, chemistry, physics, French and German. From this point on, the number of hours of college credit required for medical college admission would be increased to 60 hours of college credit.[19] In a similar area, by 1918 the Federation of State Medical Boards (FSMB) agreed to accept the list of schools accredited by the AAMC and CME, and joint medical school inspections by the Council and the Federation were being planned for the future.[20]

In abandoning the narrow views of the proprietary colleges and states' rights arguments of county societies, the committees of the AMA and AAMC thus became a recognized influence in the reform of American medical education.[21] In achieving a corporate image both the AMA and AAMC relied upon the grass roots nature of the professional organization and recognition by the practitioner that his future social and economic status depended on his belonging to the AMA and cooperating with it to make himself more efficient, more humane, and better educated. In mobilizing a common set of goals, the medical profession enabled its membership to rise quickly in economic security, quality of practice and social prestige.[22]

It has been evident the manner in which certain reform measures of the CME and the AAMC were readily accepted and supported by selected medical licensing boards. More specifically, there is a

need to consider with these boards their reform desires and the political influences with which they were associated.

Medical Licensing Boards

By the late nineteenth century, professional and certain interest groups were developing their own organizations. In America, the field of medicine appeared to be taking on more structure, and its leaders were concerned with the need to protect the public from incompetent practitioners. The medical profession urged the formation of state medical licensing boards.[23] Regulatory boards were not new in medicine because they once had an important role in the regulation and development of medical practice in America during an earlier period; however, that began to fade in certain states.

Medical licensing boards frequently had to contend with legislative inconsistencies within the states. This created problems for older physicians and recent medical graduates who desired to establish a medical practice in a different state from the one in which they acquired their training and medical diploma. Also, the presence of a number of medical sects created additional problems as far as medical standards were concerned within the state.[24]

It was important that there be limited ways whereby one could enter into the practice of medicine within each state. It was felt that a single entry track to the profession should include a fixed educational standard to which the medical schools would adhere. Requirements should include graduation from a medical college and

successful completion of a state licensing examination.[25] Clearly, attempting to control who entered the medical profession would involve adhering to certain educational and selected medically related standards. This would pressure the medical schools to accept such measures if their graduates would be allowed to take the license examination.

It was commonly believed that possessing a medical diploma from a reputable medical college assured that the student had received adequate training. The license examination would provide an added guarantee that the applicant had a knowledge of the fundamental medical sciences and the ability to recognize diseases.[26]

These licensing boards attempted to provide a minimal level of control over some of the worst types of medical schools; however, the criteria for licensing among the states were neither uniform nor rigidly enforced.[27] Evidence suggests that some boards were faced with political pressures to protect interests of the graduates of local institutions, while others were the objects of political spoils.[28] These unstable conditions slowly began to change only when the AMA was able to exert its influence on medical education significantly around 1901. In cooperation with state boards, the AMA's Council on Medical Education made a number of recommendations which included the improvement of educational standards, hospital training and the financial restructuring of medical schools.[29]

The development of medical licensure during the first few decades of the twentieth century was closely associated with the

predecessors of the Federation of State Medical Boards of the United States. The National Confederation of State Medical Examining and Licensing Boards, organized in 1891, was concerned with improving the standards of medical education through the influence of state board regulations and licensure examinations. This organization created pressure for medical colleges to adopt their standards since they appointed a committee to examine the minimum entrance requirements to medical schools. This pressure apparently was successful to some degree because it was reported that in 1899 the organization had promoted the general adoption of a complete high school training program as a requirement for admission to medical schools, which gradually led to the one and two-year premedical college requirement.[30]

By 1901 an attempt was made to establish a national medical certificate which would allow the holder the right to practice anywhere in the country. Although the AMA supported the idea, it was apparently not feasible to finalize the work on the certificate at the time. Nevertheless, educational standards continued to be a focal point for some of the licensing boards while the lack of interstate reciprocity among physicians bothered others.

In 1902 the Confederation of Reciprocating State Medical Examining Boards (CRSMEB) was created in an attempt to promote a plan for the reciprocal exchange of physicians. As the membership increased, the aims of the organization broadened to include efforts to improve educational standards and promote uniform legislation for medical licensure.[31]

By 1908 state boards were gaining more control over medical education through elevated standards that they demanded. In five states the state boards required that the education prior to medicine should include either one or two years of college. Twenty-two states insisted on four years of high school while five more had received legislative authority to set standards. In addition, 29 states had the authority to refuse recognition to unsatisfactory medical schools. There remained 15 states where the boards had no authority to establish standards and where the medical practice acts did not mention preliminary education.[32]

By 1910 the aims of the American Confederation and the National Confederation had developed to the point that a merger was effected between them under the scrutiny of the AAMC, the AMA's Council on Medical Education and the Carnegie Foundation for the Advancement of Teaching. The new organization was named the Federation of State Medical Boards of the United States.[33] The object of the organization was to develop and maintain reasonably high and uniform standards of medical licensure, and this would involve securing accurate knowledge of the standards of preliminary and medical education. The organization maintained that it would publicize information which could be disseminated among its members on the interstate enforcement of medical licensure.[34]

The type of unity that appeared to develop among the licensing boards clearly created additional pressures for conformity within the national medical schools. This was surely boosted and carried even more influence when the CME, the AAMC and the Carnegie Foundation gave their endorsement of support.

Although the connection between the Federation of State Medical Boards and the CME and AAMC would eventually erode in future years, in the early years of the union the united efforts of the organization clearly created such a strong influence for reform among the medical schools of the country that a number felt the need either to reorganize their offerings, to merge with other institutions, or to cease operations.

Carnegie Foundation for the Advancement of Teaching

The work of the CME and AAMC was necessary to the reform movement in medical education. Likewise, the state and national medical societies and examining and licensing boards all offered their unique contributions toward the needed reform measures. Nevertheless, such organizations were seen as being too closely related to the medical scene to be thought of as impartial observers. A different tactic was needed. Although there had been a fair amount of competition among certain organizations in attempts to control medical education by destroying competition, there was beginning to develop the uniting of efforts of these groups. A national organization would exert nationwide political pressure causing the more rapid tempo of the reform.

One hypothesis being examined was associated with the political pressures that were emerging from accrediting agencies, licensing boards and similar organizations. Since it was believed to be unethical for medical practitioners or the institutions and organiza-

tions they represented to condemn their counterparts publicly, such condemnation had to come from an agency having no connection with medicine. The Carnegie Foundation for the Advancement of Teaching was such an agency and became involved in the reformation of medical education.

The Carnegie Foundation was already exerting some political pressure in higher education through its suggestions to improve education generally. The Foundation established a plan of retirement pensions for teachers in colleges, provided these institutions met certain academic standards. Such a plan with its financial inducements obviously provided considerable leverage toward improvement of standards which the foundation would seem to control.[35]

It occurred to some members of the Council that if they could obtain the publication and approval of their work by the Carnegie Foundation, it would assist greatly in securing the results the Council was attempting to bring about. The beliefs of the Foundation's President, Henry S. Pritchett, regarding professional education were compatible with that of the leadership of the AMA. He had convinced his board that there was a need for reform of the professions. Although he had been rebuffed by the legal profession, the AMA extended an invitation which Pritchett accepted. It was agreed that while the foundation would be guided largely by the Council's investigations, to avoid any claims of partiality, little attention would be given to the Foundation in the Council's reports. Thus, the

investigation results would have the weight of an independent report from a disinterested body and should be more influential in developing public opinion.[36] Berliner notes that based on this and other contacts made between Pritchett and Bevan, it was apparent that the political forces would have a strong impact on medical education reform measures.[37]

Timing was apparently an important element in the Foundation's role in medical education reform. The Council decided that it would not publish its lists of satisfactory medical colleges and would not make known its grading of specific schools until after the Carnegie report would have appeared. That would help make the Council's report at a later date more effective. The Council was seeking an increased credibility from the Carnegie report as coming from an independent agency.[38]

Although a more detailed account of the Carnegie Foundation's involvement in reforming medical education will be discussed later in this report, there are selected points of the Foundation's involvement that need to be brought out here. In 1907 Henry S. Pritchett, president of the Carnegie Foundation for the Advancement of Teaching, was invited by Arthur D. Bevan and Nathan P. Colwell of the AMA's Council on Medical Education to examine what the Council had collected on medical schools during the past several years. In 1908 since the Foundation was attempting to undertake an examination of medical, legal, engineering and theological education, Pritchett asked Abraham

Flexner if he would be willing to study medical education, and he consented.

Flexner familiarized himself with medical education as he attempted to formulate standards by which to evaluate the American institutions. Besides reading the reports of the CME, he conferred with leaders in the field of medical education such as Bevan, Colwell, and George H. Simmons. He also spent time at Johns Hopkins conferring with medical professors Welch, Halstead, Mall and others who were instrumental in the development of their medical school. He adapted what he felt were the best features of medical education in England, France and Germany to the American conditions.[39] The criteria of medical education reports, conferences with medical professors and the best features of European medical programs proved to be very elitist in nature.

With a theoretical framework of what a medical school should be, Flexner began inspecting the medical colleges. He examined the entrance requirements, size and training of the faculty, institutional finances and the physical facilities. The conditions he found were shocking, especially since there had been some improvement prior to his survey. Nevertheless, his report was published and received international attention.

As Flexner saw it, a discrepancy had developed between medical science and medical education. The scientific segment had progressed; however, the educational portion had stagnated. Flexner was demanding such a high set of standards that the medical colleges found it hard to comply.

As brought out by King, it could be argued that the Flexner Report was not an independent survey since it had been initiated by the AMA with a specific goal in mind -- to strengthen the hand of the Council in its dealings with medical schools and the public.[40] It was also brought out that perhaps the Council lacked faith in its ability to win public confidence unaided. For a number of years the public had distrusted the motives of the medical profession when it attempted to control qualifications of practitioners and ban the sectarians. The public had to be convinced that the work by the Carnegie Foundation was working for the best interest of the public. King suggested that in both the original intent and historical retrospect, the Flexner Report was an achievement in public relations and not an intrinsic contribution to medical education as such.[41]

When Flexner started his survey, the major issues on educational reform had already been established, important data collected, and the main course of progress charted. He stressed science as the basis of medicine, the importance of research, the significance of the scientific method in medical practice, and a need for the universal control of hospitals in clinical teaching. Perhaps Flexner contributed nothing essentially new to the writings of prominent physicians and to the previously published preceedings by the CME. Nevertheless, the way in which the report was written, its broad circulation and independent nature, and its sponsor helped to make the report powerful.[42]

J. H. Kirkland, Chancellor of Vanderbilt University, pointed out several politically related problems associated with improving medical

education. He noted that southern legislatures, entirely autonomous, might rebel against making laws to satisfy the medical education demands of certain northern states. He also emphasized the importance of publicity and, in doing so, anticipated the force of Flexner's report that would occur three years later. He noted that if the Council would inspect and tell the truth about all of the medical schools, point out their defects, report on their equipment and method of instruction, the moral forces that would be exerted would have an uplift that could not be calculated and would be more efficient in the long run than any attempt by drastic legislation to secure results that might produce disaster. This was the blueprint for the Flexner Report.[43]

The Flexner study was important for emphasizing both the elitist and academic viewpoints. Then, because of the report, Flexner acquired enormous power in disbursing funds, power that he directed toward promoting his own elitist viewpoint. It has been suggested that the report could have even had ultimate results different from those intended when the program of medical school inspection was decided.[44]

Clearly, the Flexner Report was one of the most powerful instruments that grew out of the period being studied. The elite and independent nature of the report, its frankness and wide circulation, among other points, contributed to making the study a very powerful and effective political tool for reforming medical education.

Over the next several decades the course of medical education encouraged other associations and organizations to enter the arena. Issues multiplied and as each one emerged, it led groups of supporters to seek a share in the control.

Politically, medical schools were being forced into a standardized mold through a number of forces. Once the AMA's Council on Medical Education became established in 1904, reform measures in medical education began to emerge more rapidly than before. Entrance standards into medical schools were advanced. The medical curriculum was modified, and the duration of the medical program was lengthened. The Council served as a national bureau concerned with improving medical education. Much of its success was attributed to the publicity and support by the medical profession. Its grading scales, physical plant inspections and its collaborations with the AAMC, the Carnegie Foundation for the Advancement of Teaching, and selected state board examining and licensing organizations made it especially effective in creating a great deal of pressure to reform in medical colleges of the period. This pressure for reform brought about positive changes in the institutions which were able to make available the money, staff and related materials. For those which were lacking in these areas, the future existence of the institutions was uncertain.

In a similar vein, the Association of American Medical Colleges organized to improve medical education standards before the turn of the twentieth century. They created pressures among institutions to effect curricular and structural changes in their programs. They, too, used physical visits, publicity and collaboration to instill pressure for reform among the medical schools.

Partly because of a desire to protect the public from incompetent practitioners, the National Confederation of State Medical Examining

and Licensing Boards and the American Confederation of Reciprocating Examining and Licensing Medical Boards and related organizations, limited the ways whereby one could enter into the practice of medicine, affected educational standards, and involved interstate reciprocity of medical examining and licensing. Within this group of organizations a number of independent demands were made at first; and later, as the group expanded, a significant amount of pressure was brought to bear on medical schools to improve their standards. By yielding to this pressure, the medical schools helped their graduates to be more successful at passing state board examinations and to belong to a more elite group of peers.

The work of the CME, the AAMC, the state and national medical societies, and examining and licensing boards all offered their combined unique contributions to the reform measures in medical education. However, these groups represented the medical profession and were viewed as being too closely associated with the medical scene to be effective as leaders of reform. The AMA, therefore, asked the Carnegie Foundation for the Advancement of Teaching to become involved in the reform of medical education. The result of the involvement was the support by the AMA and the publicity of the Flexner Report of 1910. The Foundation had its impact on medicine primarily because it was viewed as a national independent agency and was perceived to be influential in developing public opinion. Not only was this report a significant contribution for creating political

pressure to reform medical education, but the organization became more important as a collaborator among other groups.

One hypothesis of the study was to examine the political influences that selected organizations had on medical colleges and, particularly, on the University College of Medicine. The focus of the issue here was to explore the notion that UCM declined partly because of the political pressures exerted by these several groups.

One of the first steps to create pressure forcing adherence to the AMA's guidelines was to establish a national body, the Council on Medical Education, to oversee reform. A national bureau was needed to generate publicity.[45] Publication of the Council's guidelines in JAMA served as a point of political pressure to use against the medical schools. This journal was widely circulated and carried the weight of most organizations, colleges and practitioners in the profession.

Institutions that were members of the organization were coerced to adopt such requirements if they did not already recognize them. In addition, there may have been institutions that had become lax in following the rules.[46] By 1906 a report was made of the position medical schools occupied in relation to their peers based on state board examination results. This report recognized four classes of institutions, ranked from best to poor. Also, percentages of failures of those who took the state board were tabulated and published. From this information, it was easy to see which schools were producing the greatest number of failures. These actions created political pressures

that forced many institutions to improve their standards. It could be assumed that institutions showing a significant number of failures on state boards were weak or unfit in what they taught. Such pressure would seem to be a motivating force for reform from within the institution.

In addition to establishing measures to gain compliance, the Council became more directive when it made its decision to create on-site inspections. In its report the Council categorized the schools according to their quality. Following the report of its first inspection, a number of medical school mergers developed. Also, as a result, some state boards refused to examine some medical school graduates and a number of institutions were forced to close. Many of the improvements made and revisions in medical education were a result of the regular publication and revision of these classifications.[47]

By 1909 the second tour of inspection was completed and selected guidelines of an acceptable medical college were published along with an ABC rating of medical schools. During 1911 a third inspection was made.

Results from these three investigations led the CME to believe that additional work was needed in investigating and reporting on medical schools. The Council enlisted the services of local and state medical societies, the state licensing boards, the national medical associations and individual physicians and citizens of influence.[48] Clearly, these reports helped to create a pressure on the medical schools so they would either conform to the standards, be forced to close, or make some other arrangements such as possibly merging with

other institutions. The Council was serving, in effect, as a national agency on education and not medicine, and its influence touched not only medical schools but also secondary schools, colleges and universities.[49] This had a bearing on students in Virginia and neighboring states who aspired to attend the University College of Medicine.

As results of the investigative reports helped to cause reform, the Council increased its political influence to weed out unfit schools, encourage full-time professors in the scientific branches, demand bedside clinical teaching, and to provide adequate laboratory and hospital training and facilities. The Council was able to do this through its diligent work, and it came to represent the medical profession of America.

The CME worked through the AMA's organization to establish some of the early curricular changes among medical schools. Soon influence was gained and the CME affected the structure of the institutions. However, this work occurred at a time when other organizations were making their weight felt in the field of medical education also.

After earlier attempts made by the medical schools to organize themselves in order to improve their standards of medical education, the AAMC was successfully established in 1890 and began to publish requirements for medical education. The level of these requirements were sufficient in 1891 to warrant acceptance by the National Confederation of State Medical Examining and Licensing Boards. This type of dual effort created a degree of pressure that had not previously

existed to reform medical schools. Reform had been unsuccessful in the past partly because the decisions of either the AMA or earlier AAMC were not enforced. However, when reform was made a requirement for licensure, a better chance for success developed.[50]

In 1894, the AAMC amended the requirements in its constitution to include requirements which reflected necessity for achievement. By 1904 the organization began visiting selected medical colleges, and by 1905 it was requiring a standard medical curriculum of 4,000 hours.

Other organizations involving medical education such as the National Confederation of State Medical Examining and Licensing Boards adopted the AAMC's standard curriculum.[51] By 1907 the reform steps taken by the AAMC became more stringent and their efforts caused a move to support the AMA's list of medical schools prioritized on the ABC basis.[52] Not only were different organizations promoting reform measures, they were beginning to experience similarity in their desires.

Between 1900 and 1910, the feeling for a need for reform in medical education had begun to accelerate and to involve a number of organizations. The National Confederation of State Medical Examining and Licensing Boards had adopted the AAMC's standard curriculum. In 1913 the AAMC and the AMA's Council on Medical Education and Hospitals united their efforts.

In a similar area, by 1918 the Federation of State Medical Boards agreed to accept the list of institutions accredited by the AAMC and

Council, and joint medical school inspections by the Council and Federation were being planned for the future.[53] In abandoning the narrow views of the proprietary colleges and states' rights arguments of county societies, the committees of the AMA and AAMC became a recognized influence in the reform of American medical education.[54]

During the latter part of the nineteenth century, a number of professional groups were forming independent organizations around their interests. Restructuring was taking place within the field of medicine. To protect the public from incompetent practitioners, the medical profession urged the formation of state medical licensing boards. In view of legislative inconsistencies within the states which affected reciprocity and in view of the number of medical sects demanding the right to provide questionable medical services, it was felt that a single entry track to the profession should include a fixed educational standard to which all medical schools would adhere. The licensing boards attempted to provide a minimal level of control over some of the worst types of medical schools.

The development of medical licensure during the first few decades of the twentieth century was closely associated with the efforts made by the predecessors of the Federation of State Medical Boards of the U.S.

To improve the standards of medical education through the influence of state board regulations and licensure examinations, the National Confederation of State Medical Examining and Licensing Boards created pressures for medical colleges to adopt their standards since they

appointed a committee to examine the minimum entrance requirements to medical schools. Somewhat later, the Confederation of Reciprocating State Medical Examining Boards was created in an attempt to promote a plan for the reciprocal exchange of physicians. As the membership increased, aims of the organization broadened to include efforts to improve educational standards and to promote uniform legislation leading to the Federation of State Medical Boards.[55]

By 1910 the aims of the American Confederation and the National Confederation had developed to the point that a merger of these organizations was effected under the scrutiny of the AAMC, the AMA's Council on Medical Education, and the Carnegie Foundation for the Advancement of Teaching. The new organization was to develop and maintain reasonably high and uniform standards of medical licensure, and this would involve securing accurate knowledge of the standards of preliminary and medical education. The organization maintained that it would publicize information which could be disseminated among its members on the interstate enforcement of medical licensure.[56]

The united efforts made by the Federation of State Medical Boards, the CME, and the AAMC created such a strong influence for reform among the medical schools of the country that a number of institutions either reorganized their offerings, merged with other institutions, or died out completely. The University College of Medicine and the Medical College of Virginia were two institutions affected by these and other forces during the period, and it was believed that through merger their combined efforts could produce a stronger school.

The work of the CME and AAMC was necessary to the reform movement in medical education. Likewise, the state and national medical societies and examining boards made their contributions toward the needed reform measures. Nevertheless, such organizations were seen as being too closely related to the medical scene to be thought of as impartial observers. Although there had been a fair amount of competition among certain organizations in attempts to control medical education by destroying competition, there was beginning to develop the uniting of efforts of these groups.

Since it was believed to be unethical for medical practitioners, or institutions and organizations they represented, to condemn their colleagues publicly, any condemnation for change had to come from an agency that had no connection with medicine. It was at this point that the Carnegie Foundation for the Advancement of Teaching became involved in the reformation of medical education.

It occurred to some members of the CME that if they could obtain the publication and approval of their work by the Carnegie Foundation, it would assure the results the CME was attempting to bring about. Through negotiations between the Carnegie Foundation and the CME, it was agreed that while the Foundation would be guided largely by the CME's investigations, to avoid any claims of partiality, little attention would be given to the Foundation in the CME's reports. Thus, the investigation results would have the weight of an independent report from a disinterested body and should be more influential in developing public opinion.[57] The Council decided not to publish its

list of satisfactory medical colleges and would not make known its grading of specific schools until after the Carnegie report by Abraham Flexner was published. That would help make the Council's report more effective.

When Flexner started his survey, the major issues on educational reform had already been established, important data collected, and the main course of progress charted. Perhaps he contributed nothing new to the previously published proceedings by the CME. Nevertheless, the way the report was written and its broad circulation and independent nature and its sponsor helped to make the report powerful.[58]

The Flexner Report, despite Flexner's lack of medical knowledge, proved to be one of the most powerful instruments that grew out of the period being studied. The elite and independent nature of the Report, its frankness, and wide circulation, among other points, contributed to making the study a powerful and effective political tool for medical educational reform. The influence of the Report came about not because of its content as much as the medics were ready to reform medical education. The Flexner Report was germinal to the whole movement. The force both direct and indirect of the Report surely had an effect on the stamina of the University College of Medicine.

The activities of the organizations mentioned above created such an intense degree of pressure for reform in medical education that those institutions having the greater financial base, and its related support, more easily changed and improved educationally.

However, a number of other schools, such as the University College of Medicine in Richmond, Virginia, which did not possess the necessary financial structure to comply with recommendations made in the Report were forced either to close or to merge with other institutions.

Footnotes

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2. American Medical Association, "Council on Medical Education of the American Medical Association - Third Annual Conference," Journal of the American Medical Association May 1907 48(20): 1701-1702.

3. Ibid. p. 1702.

4. Ibid.

5. Ibid.

6. Ibid.

7. Arthur D. Bevan, "Cooperation in Medical Education and Medical Service," Journal of the American Medical Association April 1928 90(15): 1175.

8. American Medical Association, "Report of the Council on Medical Education," Journal of the American Medical Association June 1912 58(23): 1795.

9. Hubert Work, "Report of the Reference Committee on Medical Education," Journal of the American Medical Association June 1910 54(25): 2061.

10. Ibid. p. 1703.

11. Henry S. Pritchett, "The Classification of Medical Schools," Association of American Medical Colleges Proceedings February 1915, p. 12.

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Chapter III

THE CURRICULAR AND STRUCTURAL PRESSURES THAT CONTRIBUTED TO THE DECLINE OF THE UNIVERSITY COLLEGE OF MEDICINE

In the previous chapter it was hypothesized that the political pressures emerging from accrediting agencies, licensing boards, and related organizations to upgrade general medical education standards affected medical education and contributed to the decline of the University College of Medicine. A significant aspect of this reform affected the medical curriculum and academic structure of the institution.

The curriculum was being affected by modifying the subjects being offered, through raising entrance requirements to medical schools, adding to the school calendar and through adapting to related educational requirements. Such pressures for change altered the image of the institution and affected its operation.

As the nineteenth century drew to a close and the twentieth century began, an intense degree of influence developed from the AMA's Council on Medical Education, the Association of American Medical Colleges, the Carnegie Foundation for the Advancement of Teaching, and from selected medical licensing boards. A quick effort to offset the limited conditions of medical education by the mid-nineteenth century, with population increasing, the need for physicians and medical schools was great. There were few legal restrictions on the development of

medical schools and many were established primarily for economic gain of the promoters and faculty. With so many medical schools being established, there developed a competition for students without general standards. Many of the medical schools which were created were inferior or, at least, were weak in structure and gradually became inferior institutions. Some, unfortunately, were inferior from the beginning.

By the end of the nineteenth century there had developed about as many medical schools in the United States as there were in the rest of the world. Uniformity within the medical curriculum did not exist. A wide gap appeared between the subjects offered, the time spent in the schools, and within the admission requirements.[1]

When the American Medical Association was established in 1847, colleges were awarding the M. D. degree for less than six months' attendance in addition to a period of apprenticeship. The degree permitted the holder to practice medicine in nearly every state. However, 60 years later a longer and more detailed program of study was required for the degree. In nearly every state the degree permitted the graduate to a licensure examination preceeding practice.[2]

The desire to improve medical education in the United States during the beginning of the twentieth century may owe much of its success primarily to the reorganization of the AMA in 1901. However, other organizations such as the Association of American Medical Colleges, the forerunners of the Federation of State Medical Boards, the Carnegie Foundation for the Advancement of Teaching and other medical schools had an influence too.

During the later 1800's and early 1900's the proliferation of medical institutions and organizations associated with medical education was great. However, confusion existed among the institutions that desired to produce physicians and the organization that developed an aim at regulating them. Independent interests, independent actions, and developing oppositions among selected medical organizations were prevalent and became intertwined.

In a similar vein, some confusion existed within the evaluation that was done by many of the state and national medical organizations through name changes, mergers with other organizations and terminations. Eventually, as cooperation among the organization was gained, the number of medical colleges was reduced and medical education slowly improved.

The first organization to be examined will be the AMA's Council on Medical Education (CME). In view of the relationship of the Council to other medically related organizations and its longevity and influence, a curricular pattern developed by the group became a proposal for a number of reform measures that would be presented at UCM.

Council on Medical Education

The American Medical Association was established in 1847, but was more effective in dealing with medical education after its reorganization in 1901.[3] In 1902 a committee was appointed to examine medical education and develop a report the following year. The committee

recommended that in the absence of national governmental control, a national influence and control of medical education had best be assumed by the AMA. Furthermore, a degee of permanence should be given to a committee or council on education. In 1904 the committee on education recommended the creation of the Council on Medical Education.[4]

At first the Council consisted of Victor C. Vaughan, dean of the University of Michigan Medical School; William T. Councilman, professor of pathology, Medical School of Harvard University; Charles H. Frazier, professor of surgery, University of Pennsylvania School of Medicine; J. A. Witherspoon, professor of medicine, Vanderbilt University School of Medicine; and Arthur Dean Bevan, professor of surgery, Rush Medical College (University of Chicago). The institutions represented here were leaders in the field since the recommendations that came from them were followed rather quickly. It was soon discovered that although the CME did not have any legal powers, when sound suggestions were made to elevate the standards of medical education and these suggestions were presented to the profession through the publication of the Journal of the American Medical Association, they were apt to be adopted as though they were legally required. This was largely due to the cooperation given by the medical schools, the state licensing boards, and the medical profession as a whole.[5]

The CME discovered that the existing conditions of medical education in the United States were not satisfactory when compared to those in England, France and Germany. At its first conference on medical education in 1905, the Council recognized that there were five schools

that required two or more years of a preliminary training in the university before entrance to the medical school. These included Johns Hopkins (effective in 1893), Harvard (effective in 1900), Western Reserve (effective in 1901), Rush, University of Chicago (effective in 1904), and the University of California (effective in 1905).[6]

The CME agreed that American medical education must be made equal to that in England, France and Germany and that a five-year course was needed and would include the following:

1. A preliminary education sufficient for entrance to our standard universities.
2. Five years in medical work, the first year to include physics, chemistry and biology; two years in the laboratory sciences of anatomy, physiology, pathology and pharmacology, and two years in clinical work, with the last year arranged in such a way as to bring the student in contact with the patient at the bedside.
3. The passing of an examination before a state licensing board.[7]

It was assumed that such a requirement could not be enforced at once throughout the country; therefore, the Council agreed as a temporary standard the following minimum requirements:

1. Preliminary education of four years at high school.
2. A four-year medical course.
3. Passing a satisfactory examination before a state licensing board.[8]

During 1905 the Council reported to the House of Delegates what was adopted as the "ideal standard" in medical education which it desired to bring about in the United States.

1. Preliminary education sufficient to enable the candidate to enter our recognized universities.
2. A five-year medical course; the first year devoted to physics, chemistry and biology; the next two years to laboratory sciences of anatomy, physiology, pathology and pharmacology, and two years to the clinical branches, with close contact with patients in both dispensary and hospital.
3. A sixth year as an intern in the hospital.[9]

After first establishing a standard of medical education toward which it might work, the Council began to investigate the existing conditions in regard to medical students. The first piece of evidence included information on medical students and examinations before state boards. This information was published in the educational number of JAMA for several years. These data gave the number of students examined before the various state boards, the medical schools from which they came, and whether they passed or failed. From such reports, the CME developed tables which divided the medical schools of the country into four classes based on the percentage of students failing the state boards. The data were published in JAMA on May 6, 1905. The ranking used here seems rather simple in view of the information base that was needed. Class 1 institutions had less than 10 percent failures, those of Class 2 had from 10 to 20 percent failures, and Class 3 had more than 20 percent failures. Schools designated as Class 4 included unclassified institutions where there were less than 10 graduates or most of whose graduates were licensed by their own home state board or in which the Council felt that the evidence was insufficient to permit conclusions.[10] The better schools would

ordinarily have the lowest percentage of failures, but academically poor institutions, through intensive quiz sessions concentrating on examination questions, might also have a low rate of failure.

The percentage of failures of medical school graduates before state boards did not reveal a complete story about the institution; however, publication of the tables in JAMA influenced many of the schools to improve their standards.[11]

As the Council continued to study the problem, it became apparent that a personal inspection of the 160 institutions had to be made in order to determine the character of the physical plants, of their work and faculties, their general fitness to teach medicine, and to mark them as one might in giving a civil service examination. The Council proceeded to divide the country into sections and each one of the 160 or more schools was visited in 1906 by some member of the Council or by the secretary, N. P. Colwell. In most cases, both the secretary and a member of the Council inspected the institution.[12]

The institutions were marked on 10 points, making possible a total of 100 points, and divided into three groups. Class A institutions marked above 70 were considered "acceptable." Class B schools marked from 50 to 70, were designated as "doubtful." "Non-acceptable" institutions were marked below 50 and were placed in Class C. The 10 points on which the schools were marked included:

1. Showing of graduates before state boards.
2. Requirements of preliminary education and its enforcement.
3. Character of medical curriculum.
4. Medical school plant.
5. Laboratory facilities and instruction.

6. Dispensary facilities and instruction.
7. Hospital facilities and instruction.
8. Extent to which the first two years are offered by men devoting entire time to teaching and also evidence of original research.
9. Extent to which the school is conducted for the profit of the faculty directly or indirectly, rather than for the teaching of medicine.
10. Libraries, museums, charts and teaching equipment.[13]

Although the plan may be viewed as crude by more contemporary standards, at the time it provided the Council with a practical basis on which to grade the institutions. In making its inspections the CME was very lenient in its assessments.[14]

The first attempts to classify institutions were presented to the third annual conference of the CME on April 29, 1907, at Chicago. The report was publicized throughout the institutions and was sent to the state licensing boards. The institutions that were below standard were given a reasonable time to improve. The inspection revealed that of the 160 institutions, 82 were in Class A, with marks above 70 percent; 46 were in Class B, scoring between 50 and 70 percent; and 32 were in Class C, falling below 50 percent.[15]

As a result of the report of this first inspection of medical schools, a certain degree of change in medical education was experienced. Fifty institutions agreed to require by or before 1910 at least one year of university physics, chemistry and biology and one modern language as preliminary studies before matriculating in a program of medicine.[16] Very soon a number of consolidations developed in some cities having several schools. In addition, as a result of some state boards refusing examinations to their graduates, a number of institutions

closed. It soon became evident that the 160 schools would decline in number. By the time of the report of the second inspection tour in 1910, the number of schools had been reduced from 160 to 126.[17]

Within two years (1909) the second tour of inspection of the medical colleges of the United States was completed and additional data were collected. Since the medical colleges of Canada provided a large number of practitioners to the U.S., the institutions of both countries were included in the second inspection.

The reports regarding the various departments of each college were reviewed and compared with the purpose of finding the average condition. From this study of the extant conditions and with a view of the immediate needs of medical education, an outline of the "Essentials of an Acceptable Medical College" was prepared. The outline represented the majority of conditions which were below average that existed in nearly all of the colleges in the U.S. and Canada and is included in Appendix A.[18]

For an institution to be considered as a medical "college" by the CME, it was required to have at least six professors giving their entire time to medical work as well as a graded program of four full years of college work in medicine. Admission requirements included not less than the usual four years of academic or high school preparation, or its equivalent, in addition to grammar school studies.[19]

This outline was regarded as a standard even though it was felt to represent a low average of the conditions which actually existed. In view of this, colleges were rated on a civil service basis using a scale of 100 percent. The data relating to each college were grouped under 10 general categories so that the groups would have as

nearly equal weight as possible. Each group was assigned a possible 100 points (10 percent), and the 10 groups comprised a possible 1,000 points (100 percent). The 10 heads under which the data were arranged included:

1. Showing of graduates before state boards.
2. Requirement and enforcement of satisfactory preliminary education and the granting of advanced standing.
3. Character of curriculum.
4. Medical school building.
5. Laboratory facilities and instruction.
6. Dispensary facilities and instruction.
7. Hospital facilities and instruction.
8. Faculty, number of trained teachers, all time instructors, especially of the laboratory branches and extent of research work.
9. Extent to which the school is conducted for properly teaching the science of medicine rather than for the profit of the faculty directly or indirectly.
10. Libraries, museums, charts, etc.[20]

Those colleges receiving a rating of 70 percent or above were listed in Class A as acceptable. Those rated from 50 to 70 percent were colleges which required certain definite improvements to make them acceptable and were designated as Class B. Colleges with less than 50 percent appeared in Class C and complete reorganization would be required to make the institution acceptable.[21]

After the investigation the Reference Committee maintained that the schools in Class A should not feel that they had reached perfection because they were designated as "first class."

The schools in Class B were unsatisfactory in some ways but were viewed as capable of being able to improve to a satisfactory basis.

To these schools information was sent suggesting improvements. There were 29 institutions in this class.[22] Schools in Class C varied. Some were regarded as hopeless. It was felt that others, however, might be made satisfactory but only by a thorough reorganization along more advanced lines. Twenty-seven schools belonged to Class C. The institutions for colored students were classified on a still more lenient basis. This was justified not on the ground of any racial difference but on account of peculiar educational conditions.[23] It was brought out by Bevan and Colwell that:

> Including Canada(ian) schools, 78 colleges were listed in Class A, and of these 68, including 4 Canadian and 2 negro schools, gave the complete four-year medical course, and 10 gave, in an acceptable manner, only the first two years in medicine. In Class B there were 33 medical schools, including 3 Canadian and 1 negro colleges, all giving the complete four-year medical course leading to the M.D. degree. In Class C there were 32 medical schools, including 1 Canadian and 4 negro schools.[24]

The Council believed that the time had come when the best interests of medical education demanded that this rating of institutions should be made public.[25] As the work of the CME developed, it became apparent that if it could secure the publication and approval of its work by the Carnegie Foundation for the Advancement of Teaching, this might help secure the results that it was seeking. A look at some of the early contributions of the foundation will be presented later in the study.

The CME also sought the cooperation of the universities of the country to place future American medical schools as a department of

a university. Rapidly, many of the better medical schools sought affiliation with the universities.[26]

For the first time in the history of medical education, there was made available a complete classified list of all the medical colleges in the U.S. and Canada. Shortly after the report was published, 19 additional medical colleges closed by merger or otherwise, making a total of 56 which have been closed since the Council's first classification was reported in 1907. Nevertheless, the CME was still insisting that the colleges have these facilities since a third inspection was planned.

The Council, for the third time, continued its work of inspecting medical colleges which was completed in 1911. As a standard of measurement during the third inspection, the CME was guided by the outline of the "Essentials of an Acceptable Medical College," which it had prepared during its second tour of inspection and had reported to the House of Delegates in June, 1910. As pointed out earlier, the outline represented, for the most part, a standard considerably below the average of conditions existing at that time in all the medical colleges of the U.S. and Canada. The outline used in the third inspection was similar to that of the second; however, the more recent outline listed as number 12:

> As soon as conditions warrant, the requirements for graduation should be enlarged to include at least twelve months of continuous work as an intern in an acceptable hospital.[27]

In addition, there were other changes in numbering some of the outline steps, but the essence of the latter outline was similar to the first.

As in the second classification, the institutions that were visited were rated on a civil service basis using a scale of 1,000 points. The data relating to each institution were grouped under 10 general headings in such a manner that the groups would have as nearly equal weight as possible. Each group allowed for a possible 1,000 points (100 percent). The 10 categories under which the data were arranged for the third inspection were nearly identical to those used in the second. The categories were as follows:

1. Showing of graduates before state boards and other evidences of the training received by the graduate.
2. Enforcement of a satisfactory preliminary educational requirement and the granting of advanced standing.
3. Character of curriculum, grading of course, length of session, time allowed for matriculation and supervision.
4. Medical school buildings; light, heat, ventilation, cleanliness.
5. Laboratory facilities and instruction.
6. Dispensary facilities and instruction.
7. Hospital facilities and instructions, maternity work, autopsies, specialties.
8. Faculty, number and qualifications of trained teachers, all-time instructors, and assistants especially of the laboratory branches, and extent of research work.
9. Extent to which the school is conducted for properly teaching the science of medicine rather than for the profit of the faculty directly or indirectly..
10. Possession and use made of libraries, museums, charts, stereopticons, etc.[28]

Colleges receiving a rating of 70 percent or above in each and all of the 10 divisions were included in Class A and regarded as "acceptable." Institutions receiving an average of 70 percent or above, but which received a rating below 70 percent in one to three of the

divisions were included in Class A minus. These schools had some deficiencies but were otherwise viewed as acceptable. Class B institutions received an average of between 50 and 70 percent and colleges having an average of above 70 percent, but which received a rating below 70 percent in more than three of the divisions, were included in this class. These schools were viewed as needing some general improvements. Colleges receiving less than 50 percent were included in Class C. These institutions needed a complete reorganization to make them acceptable. On the basis of the third inspection, the Council was able to prepare a revised classification of the medical colleges of the U.S. and Canada with the recommendation that it be published.[29] It should be apparent here that ranking is becoming more sophisticated since the CME is beginning to qualify its ranks.

Following the first tour of inspection in 1907, the Council was criticized for not publishing a classification of medical colleges. None was published then because of the desire to give a number of institutions, which were contemplating improvements, the opportunity to do so. As a result, many schools secured additional facilities, a number of mergers were initiated, and medical education in general experienced some improvement. The general conditions, as indicated by the first inspection, were given wide publicity to discourage any excuses of ignorance regarding the more modern medical demands. The regular publication of frequently revised classifications was essential to secure many of the improvements in medical education.[30]

Results from these three investigations of course requirements, length of sessions, entrance requirements, and related areas led the CME to believe that additional work was needed in investigating and reporting on medical schools, and a number of observations appeared to support this notion. At least 45 medical schools were still adhering to less than a four-year high school education as a minimum of preliminary education. Certain of these institutions used questionable makeshifts in order to increase the enrollment and finances of the school. Likewise, many of the 45 institutions allowed advanced standing for work done at inferior medical colleges. Also, a number of medical schools were still being conducted for profit. Only 33 institutions were noted as having a reasonably close and mutually advantageous connection with universities. However, there were some who misrepresented university connection by either including the word as part of their title or claiming association in some other vague way. There were probably those who may have used words such as "college" or "university" or similar institutional-related names without any genuine understanding of the terms other than perhaps that the words sounded more distinguished.

It was pointed out that in at least 56 institutions no research was being conducted - at least the type of research that could be considered as truly scholarly and scientific. It was also noted that while this country had 120 medical schools, only about 30 (25 percent) in the U.S. compared favorably with the medical schools of the leading nations abroad.[31]

By this time there were at least three broad categories: those that were acceptable and either needing minor or no improvements; those needing general improvements; and those needing a complete reorganization in order to be up to acceptable standards.

As a result of the third visit to medical schools, the Council worked toward a further reduction in the number. There were several locations where mergers could be made, since two or more medical schools were competing for clinical facilities in local hospitals and neither were securing adequate advantages. This was particularly true in cities such as Atlanta, Dallas, Memphis, Milwaukee and Richmond. It was felt that a merger of the institutions in these cities would make for fewer but improved institutions. It was also believed that additional mergers should be brought about in Baltimore, Boston, Chicago, Philadelphia, St. Louis, and Washington. Improved supervision was needed in the institutions. Some schools were not making use of the advantages they had. Larger dispensary facilities could be developed at some schools, and others could have expanded hospital privileges if they would make use of them when training their students.[32]

It was pointed out that a medical school could not be fully sensitive to the existing needs of medical education unless it had the inspiration that came from medical research within the college. In this vein, only about 30 medical colleges were believed active in valuable research in the U.S. at the time. In approximately 30 others, a small amount of research was being conducted, but the workers were handicapped by lack of time, assistants and materials, or the college

was of such a low standard that no significant benefit could come from it. In at least 56 medical institutions no research was being done.[33]

From the Council's research of medical education since 1904, it became important for the organization to publicize its idea of a modern medical school. It was felt that a modern medical school should be developed as the medical department of a university, and its function should be to turn out well-qualified practitioners and to add to the knowledge of medicine. The CME felt that medical schools should have well-qualified students, expert teachers, well-equipped laboratories and ample clinical material.[34]

The Council proposed that, in addition to their primary and secondary education, medical students should be required to have completed one or two years of advanced physics, chemistry and biology; four years of medical study; and have a year's internship in an approved hospital.[35] Such a minimum requirement as this for a medical degree would allow a student to graduate at about 25 to 26 years of age. The Council felt that the tendency of some university medical schools to extend their entrance requirements to three or more years of university-level science was enough. With an eye to future development, the organization further held that state medical licensing boards within the next two or three years should require one year of internship in a hospital. Medical education needed specially trained medical teachers and researchers in anatomy, physiology, pharmacology and pathology. This level of teacher had previously been difficult to secure since most medical schools had little money to pay reasonable

salaries and also because of the lack of teaching assistants, poor facilities and lack of time to carry on research work. The lack of well-trained medical personnel led many of the institutions to fill positions with men holding the Ph.D. degree. They were viewed as being well trained in their special sciences but possessed a lack of medical training and experience. Lacking this medical experience prevented such teachers from completely understanding the work of the clinical departments and being able to completely correlate their work.[36] The experience that physician-teachers would have gained in dealing with patients would be lacking in the Ph.D. The Council felt that there was so much medical knowledge to be learned in such a limited amount of time that the subjects of the medical course should be selected by those who had received complete medical training. Teachers with this training would seem to be in the best position to correlate subjects with other branches of the medical course.

The model used in the German universities was what the CME favored, whereby the clinical professor was selected because of his scientific ability. He received a fair but moderate salary and was made to feel that his university and hospital work was of first importance. In addition, he usually devoted at least four to five hours each day to his clinical cases, to teaching or to research work. It was recognized proper for him to have some private practice so long as it did not interfere with his university work. It was believed that this contact helped keep the professor in touch with the patients and the medical profession, thus helping to make him a more practical teacher. Income

from this feature attracted and held highly qualified men in clinical chairs. A clinical professor must be a great physician, a trained teacher, and competent to conduct research.

The clinical professor would select salaried associates and assistants who would devote their entire time to clinical work, teaching, and research. From this group those who showed the greater ability could be selected to become future clinical professors.[37] It was felt that the recognition of medical education in the U.S. had to be made by men who were more familiar with the facts and the needs of the situation--the medical men themselves.

In a related area, the physical plant of the medical school was an important component of the educational process. Four laboratories were believed necessary to carry out research in areas of anatomy, including embryology and histology; physiology and physiologic chemistry; pathology, including bateriology; and one for pharmacology. It was estimated that a modest annual sum of approximately $40,000 would be needed to maintain the work in such a laboratory situation.

Clinical work was viewed as a necessary adjunct to the laboratories. The components of clinical experiences included a modern hospital; a dispensary or out-patient service; and for each clinical department, clinical and research laboratories, classrooms, operating rooms, and related items.[38]

In order to reorganize medical education, the medical profession needed to accomplish three tasks. First, it must urge the state licensing board to require that amount of medical training which was necessary before the medical student could safely begin independent practice.[39]

A second task was to secure adequate funds to place medical schools on a full university basis. Also, it was held that the medical departments should be reorganized to resemble those of the German universities in order to develop needed trained teachers. Such reorganization would need assistance from state aid, private endowment and the support and cooperation of university officers and trustees.

Thirdly, a final chore would be to secure the proper affiliation between the great charity hospitals and the medical schools. These three tasks would need the cooperation and support of the state boards, the university authorities and the governing bodies of hospitals.[40]

Up to this point, one can see that through the AMA's organization, there was a desire for the Council on Medical Education to establish some of the early curricular changes among medical schools. Such changes affected the structure of the institutions. However, these forces intertwined with those of other organizations functioning during the same period. An examination of the development of the Association of American Medical Colleges, with selected curricular changes, will be investigated next. Within this section, a convergence of some of the efforts of the Council, the Association, the Carnegie Foundation, and certain licensing boards will begin to emerge.

Association of American Medical Colleges

Educational changes made from 1860 to 1875 at Harvard and other leading colleges suggested a university basis for reform in medical education. In 1876 twenty-two medical colleges established their

own organization in an effort to improve medical education standards from within and eventually organized themselves as the Association of American Medical Colleges.[41]

The purposes of the Association were initially the "advancement of medical education in the United States," and "establishment of a common policy among medical colleges in the more important matters of college management." By-laws and Articles of Confederation were developed and the following year a formal plan for medical college registration was adopted. Through registration, it recognized a list of acceptable schools and one of rejected schools.[42]

In 1880 the AAMC began to question the duration of training required for an acceptable medical education and suggested that "the minimum length of time required for gaining an adequate knowledge of medicine should not be less than three years, and that at least one-half of each of these years should be spent in a proper medical college."[43] Furthermore, it was noted that . . . "the medical colleges . . . should extend their annual term of active and obligative instructions to six months of each year." Unfortunately, the Association lost many of its members when it decided to require three instead of the generally accepted two full courses of lectures. The loss of many founding members was a serious blow to the new organization and no annual meeting was held from 1883 through 1889.[44]

By 1890, through a series of meetings held in Baltimore, it was felt nationwide that reform in medical education was needed. Representatives of Maryland medical colleges decided that it would be self-

destructive for all the colleges in one state to set high standards. Notices were sent to regular medical institutions in the U.S. inviting delegates to a conference aimed at improving medical education in this country. The announcement included five items for discussion: 1) a three-year program, with each term lasting at least six months; 2) a graded curriculum; 3) written and oral examinations; 4) admission determined by examination; and 5) laboratory instruction in chemistry, histology and pathology.[45]

The delegates that attended the meeting in 1890 established the American Association of Medical Colleges, an organization later named the Association of American Medical Colleges. To be members of the Association, schools had to require three years of medical study for graduation, with the yearly term not less than six months long. In addition, each student was required to pass oral and written examinations, and laboratory work was required in chemistry, histology and pathology. Finally, each institutional member could no longer admit unqualified students. Entrance examinations would be required, consisting of a 200-word composition, translation of easy Latin prose, and tests in higher arithmetic and elementary physics. Graduates of recognized colleges of literature, science or art and normal schools were exempted from this requirement.[46]

In 1891 the AAMC was joined in the struggle for reform by the National Confederation of State Medical Examining and Licensing Boards which voted to require a minimum of three years of medical training. This type of dual effort was necessary. Conversion had been unsuccessful

in the past due to the lack of means to enforce the decisions of either the AMA or the earlier American Association of Medical Colleges. When suggestions for improvement among the medical schools were made a requirement for licensing rather than dependent upon the goodwill of the various medical schools, there developed a better chance for success.[47]

For the first time, a nationwide attempt at reform was successful. By January 1893 less than 10 percent of the schools continued to have two-year courses. In 1894 the Illinois State Board of Health reported that in 1893, 96.3 percent of the schools required three or more years of study.[48]

The benefits offered by the better schools were becoming obvious. The results of the examining boards indicated that 25 percent of the graduates of inferior colleges were not capable of passing the required examinations, compared with 1.5 percent of the graduates of the better schools. In 1892 twelve states required examination of all applicants before licensing. Eventually, every state would require examination before licensure, making it likely that graduates of inferior schools would not be able to practice medicine in the United States.[49]

At the 1894 meeting in San Francisco, the AAMC constitution was amended. Members of the Association were to require all matriculates to take an examination that included an English composition of not less than 200 words in the applicants' handwriting, higher arithmetic, algebra through quadratics, elementary physics and Latin. Graduates or matriculates of reputable colleges, or high schools of top quality, or normal schools established by the State authority, or those passing

the entrance examination provided by the State of New York could be exempted from the requirements.[50] It was further stated that beginning in 1899, M.D. candidates would be required to study medicine for four years and attend at least four courses of lectures of not less than six months for each session. The Secretary was authorized to cancel the registration of those colleges that were unable to provide the four-year curriculum.

At the meeting in Atlantic City in 1900, it was agreed that after July 1, no medical college that was a member of the Association would be allowed to permit a student to matriculate who did not have a diploma from a high school, academy, normal school or college giving an acceptable preliminary education. Furthermore, the student was required to have passed the examination that covered the branches usually taught in the schools.[51] Probably a good deal of flexibility existed when it came to determining what was acceptable. During this period, to be a high school graduate could have different meanings. Some schools offered two, three and, in some cases, four years of study past the eighth grade. The high school situation was especially limited in the South, and Richmond was no exception when it came to public high schools. A diploma from an academy, normal school, or college also could have stood for a number of things since there was little standardization among the institutions.

Attention to standardization of the curriculum was given in 1904 to Fred C. Zapffe, Secretary of the AAMC, about a survey he made of member colleges and the results of a questionnaire given to 161 medical colleges in the U.S. and the Philippines. All of the institutions

recognized four-year terms, but the length of an annual session varied from six to nine months. The tuition varied from $35 to $200 per year. Forty-one of the schools reported having AAMC entrance requirements while the rest apparently did not.[52]

Work over the ensuing year by the AAMC included the standardization of a medical curriculum of 4,000 hours. To ensure the standards were established, a Committee on Visitation and Inspection was utilized. Secondly, the establishment of an annual medical conference was called in April. Results of those efforts were seen when the National Confederation of State Medical Examining and Licensing Boards had adopted the AAMC's standard curriculum.[53]

Concern for standardization continued in 1907 when a resolution passed by the AAMC recognized that no time credit (credit hours) could be awarded on a satisfactory examination. Also, four years of residence in a medical college became required of all candidates for the M.D. degree. A third action taken during the same year by the AMA was the establishment of its first classified list of schools on the ABC basis presented earlier in this report.[54]

Between 1900 and 1910, the tempo for reform had accelerated. The AAMC had reorganized their efforts on improving entrance requirements into medical schools, extending the years of medical study and length of sessions, and modifying the curriculum to include more laboratory work and clinical experience. These efforts at reform apparently became so highly regarded that the National Confederation of State

Medical Examining and Licensing Boards joined the AAMC to strengthen their struggle for reform and, among other things, adopted their standard curriculum.

Through its concern for a common program of training, the CME had established its "Essentials of an Acceptable Medical College" and had initiated the rating and inspection of American medical colleges. As the plans for later inspections were being laid, attempts were being made to bring in an outside agency to evaluate medical education in the U.S.--the Carnegie Foundation for the Advancement of Teaching.

By 1911 the name of the Council had been changed to include hospitals. Both the AAMC and the Council began to see duality in their standards on medical education. They united their efforts and in March, 1913, at a joint meeting the two organizations agreed that before admitting students to medical school, they would be required to have a preliminary college year of at least 32 weeks which included courses in biology, chemistry, physics, French and German. In 1916 it was agreed that after January 1, 1918, the requirements for medical college admission would be increased from 30 to 60 hours of college credit.[55] Also, in 1918 the Federation of State Medical Boards agreed to accept the list of institutions accredited by the AAMC and the Council, and joint medical school inspections by the Council and the Federation would soon be planned.[56]

Between 1923 and 1946 the AAMC and the Council continued to sharpen requirements for American medical education. The first study conducted by the AAMC from 1925 to 1932 compared medical education in the U.S.

with that in other countries and concluded that it was dangerous to attempt excessive efforts of standardization.[57]

The second study was made under the sponsorship of the Council on Medical Education and Hospitals from 1934 to 1939. Dr. Herman Weiskotten, director of the study, along with a representative appointed by the AAMC visited each medical school in the U.S. and, upon request, each medical school in Canada. On the basis of these data, Weiskotten prepared a profile of the teaching program of the school noting both the strengths and weaknesses of each component.[58] This profile probably served as another element for standardization.

With the regular classification of the medical schools by the Council and the acceptance of the classification by the Federation of State Medical Boards, many of the medical institutions came to feel that they were being controlled and standardized too rigidly by agencies whose major interests were outside the field of medical education.[59] Previously, it was viewed that the medical institutions in the U.S. needed standardization since little existed. However, much later it was felt that many of the medical institutions were being regulated too strictly.

The influence of the Council on Medical Education and the Association of American Medical Colleges has been one to affect the admission policies, courses, programs, and length of sessions of the medical schools in the U.S.

In addition to these efforts to upgrade medical training, there were licensing boards that exerted influence on the admissions program

and curricular matters. A closer examination will be given to the development and influence of selected licensing boards and their influence on medical education during the period 1890 - 1920.

Medical Licensing Boards

In the last portion of the nineteenth century, interest and professional groups were forming their own organizations. Structure was also beginning to take place within the field of medicine. In order to protect the public from incompetent practitioners, the medical profession urged the formation of state medical licensing boards. A number of factors existed which caused confusion in standards and a serious division of responsibility.[60]

Medical licensing boards often had to contend with the inconsistency of legislatures which, after adopting strong medical practice acts providing for fair educational standards, proceeded to limit the board's power by granting special legislation for various medical sects with educational standards often lower than those required of regular medical practitioners. Such special legislation was blamed for much of the confusion in existing standards.[61]

To offset the confusion, it was important that there be one way to enter the practice of medicine within each state. Instead, in some states in addition to standard licensing those with ample qualifications, additional special gateways appeared whereby ignorant and incompetent practitioners, professing to adhere to special methods of treatment,

could enter. In the majority of the states after representatives of the cults were licensed, even with the lower standards, they were allowed to have privileges of unrestricted practice.[62]

It was felt by the AMA that a single entry track to the profession should be a fixed educational standard to which all schools professing to train medical practitioners would adhere. Requirements should include graduation from a medical college and successful completion of a state license examination. The certificate of graduation would be a guarantee from a reputable medical college that the applicant possessed an adequate training since that college granted a diploma. The license examination would then furnish an added guarantee that the applicant had a knowledge of the fundamental medical sciences and the ability to recognize diseases.[63]

It was held by many of those concerned with improving medical education that the time had come for the medical profession and the people of each state to recognize that a single board of competent medical examiners should control the licensing of all practitioners of medicine and that this board should be given full authority.[64]

Previously, it was pointed out that licensing boards provided a minimal level of control over the worst types of medical schools; however, the criteria for licensing were neither uniform nor rigidly enforced.[65] The immediate effect of the state licensing boards was not felt initially. Most boards were apathetic to educational requirements and, while some faced strong political pressures not to injure

the graduates of local institutions, others were the objects of political spoils and fell short of meeting their legal responsibilities.[66]

Not until its reorganization in 1901 was the AMA able to exert a significant influence to standardize elements of medical education. In cooperation with state boards, the AMA's Council on Medical Education made a number of recommendations which included the improvement of educational standards, hospital training, and financial restructuring of the medical schools.[67]

The development of medical licensure during the first several decades of the twentieth century was closely linked with that of the forerunners of the Federation of State Medical Boards of the United States. This organization was formed in 1913 by a merger of the National Confederation of State Medical Examining and Licensing Boards (NCSMELB) and the American Confederation of Reciprocating Examining and Licensing Medical Boards (ACRELMB). The NCSMELB, formed in 1891, was primarily concerned with improving the standards of medical education through the influence of state board regulations and licensure examinations. One of its most important activities was the appointment of a committee to make a survey of minimum entrance requirements to medical schools. It was reported in 1899 that the organization had an influence on unifying and promoting education preliminary to medical training and the general adoption of a full high school training as a requirement for admission to medical schools which gradually led to the one and two-year premedical college requirement.[68]

Along with demands for increased educational requirements, highly trained physicians expressed the need for the issuance of medical licensure.

Licensure, at this time, did not mean that a medical diploma was tied to the successful completion of the board exam. Some boards of medical examiners realized that many of the candidates seeking medical licenses lacked proper medical education. Some had never attended medical schools. For licensing, the candidates were only required to pass examinations. A number of better-trained physicians did not feel that this was sufficient, however. They believed the boards should require candidates for licensure to possess medical diplomas. They also felt that those physicians previously licensed should not be expected to pass examinations if they wished to move from one state to another.[69]

One step in the issuance of a medical diploma was taken in 1901 when a national medical examining board was established. The holder of such a certificate would possess the right to practice anywhere in the country. Although the AMA initially supported this idea of reciprocity, it was not deemed feasible at the time. Members of the state examining boards grew restless over the procrastination of the AMA concerning the lack of interstate reciprocity among physicians.

In lieu of action by the AMA, reciprocity was begun by the states. The secretary of the Wisconsin State Board of Medical Examiners, in 1901, devised a plan for reciprocal exchange of physicians with the secretary of the Michigan Board. From this effort developed the notion of extending the plan to all states. In the next year representatives from Illinois, Indiana, Michigan and Wisconsin formed the Confederation of Reciprocating State Medical Examining Boards. As the membership increased, the aims of

the organization were broaded to include efforts to improve educational standards and to promote uniform legislation for medical licensure.[70]

By 1910 the president of the ACRELMB maintained that the primary purpose for which the organization had been formed had been fulfilled. This facilitated negotiations with the National Confederation for merger. This was accomplished under the scrutiny of the AAMC, the AMA's Council on Medical Education and the Carnegie Foundation for the Advancement of Teaching.

Arthur Dean Bevan, secretary of the CME, declared that it was desirable that this country have only one strong organization of state examining and licensing boards. With little difficulty, a merger occurred. The name chosen for the new organization was the National Federation of State Medical Boards. However, on February 28, 1912, when the constitution and by-laws were approved, the name was changed to the Federation of State Medical Boards of the United States.[71]

The first meeting of the new Federation was held in Chicago on February 25, 1913. The object of the organization was to develop and maintain reasonably high and uniform standards of medical licensure in the U.S. In doing this the organization claimed that it would secure accurate knowledge of the standards of preliminary and medical education. This would include the rules adopted and methods employed by the medical boards of the various states and of other countries. The organization also maintained that it would publish a bulletin by which information could be disseminated among its members and further interstate enforcement of medical licensure.[72] Thus, by 1913 the AMA issued a standardized format for obtaining a medical education, which included both licensure, training and reciprocity.

Carnegie Foundation for the Advancement of Teaching

Even though the work of the Council on Medical Education and the Association of American Medical Colleges was crucial to the reform movement, those organizations were viewed as being too closely related to the medical scene to be thought of as impartial observers. Medical societies had competed with colleges for control of licensing, and the association of colleges represented a group of institutions that may have been accused of attempting to control medical education by destroying competition. Any criticism of medical training had to come from an agency not related to medicine, as it was viewed unethical for physicians or the institutions and organizations they represented to publicly condemn other physicians and colleges. That agency was the Carnegie Foundation for the Advancement of Teaching.[73]

In a move towards an objective appraisal of the area of medical education, Arthur Dean Bevan and Nathan P. Colwell of the AMA invited Henry S. Pritchett, president of the Carnegie Foundation, in 1907 to inspect the results of the AMA survey of American medical education. Pritchett, who was experienced in both science and education, perceived the problem of medical education as educational rather than of a medical nature.[74]

By 1908 Henry S. Pritchett recommended that the Carnegie Foundation undertake examination of medical, legal, engineering and theological education. The first step was to locate a qualified investigator to make a thorough examination of medical education. Pritchett was familiar

with selected publications on higher education by an educator named Abraham Flexner. Pritchett asked Flexner if he would be willing to make a study of medical education. At first, Flexner was somewhat reluctant, but when Pritchett explained that he wanted an analysis of American education from the perspective of educational theory and practice, Flexner consented to undertake the study.[75]

Flexner began to familiarize himself with medical education by examining faculties as he tried to formulate standards by which to evaluate the American institutions. He read the reports of the Council on Medical Education and conferred with leaders in the field such as Bevan, Colwell and George H. Simmons. In addition, he spent time at Johns Hopkins where he communicated with Welch, Halstead, Mall and others who had developed their medical school. Ultimately, he arrived at an idea of the ideal college. In this, he adapted what he felt were the best features of medical education in England, France and Germany to American conditions.[76]

Having developed a theoretical framework, Flexner began by inspecting the entrance requirements of the American medical colleges to see whether they were sufficient and enforced. He studied the size and training of the faculty to determine if it was extensive enough and qualified to prepare students for the scientific practice of medicine. He analyzed the finances of the institutions to learn if the school was capable of providing the necessary facilities. Then he inspected the laboratories and toured the hospitals. Since the administrators of the medical schools

believed his survey would result in funds from the foundation, they were happy to demonstrate the inadequacies at their institutions.[77]

The conditions Flexner found were shocking, especially since there had been some improvement prior to his survey. Nevertheless, his frank report was published. Although many states were said to have an excess of doctors given the total population of the state, Flexner felt that with few exceptions, the South was overcrowded with schools with which nothing could be done.[78] In Alabama for example, " . . . satisfactory medical education was not to be had,"[79] and Kentucky was not highly regarded with respect to medical education. Missouri was said to be at "low ebb" with its medical education; the state was "badly overcrowded with practitioners trained in poor schools." Nevertheless, the state continued to maintain "some of the poorest schools in the country."[80] Two schools in Milwaukee were "without any redeeming feature."[81] Chicago was regarded as the "plague spot of the country."[82] Other similar examples could be given about the general conditions of medical education in the country.

As Flexner saw it, a great discrepancy had developed between medical science and medical education. The scientific segment had progressed, but the education portion had stagnated. Institutions such as Harvard, Johns Hopkins, and Western Reserve received more favorable evaluations on the whole. Some institutions received good reports while falling short in only a few areas such as lacking adequate hospital facilities. In some cases, instructors were overworked. Some laboratories were not adequately staffed and some clinical facilites needed expansion.[83]

In many colleges Flexner inspected the credentials of the students and even investigated to learn whether they had actually graduated from four years of high school, as the colleges required. In many cases, he found that the previous reforms in many colleges had been questionable since there were students having graduated from two or three-year high schools and, in some instances, having graduated from high schools that had never existed.[84]

Flexner discovered that some schools had given advanced credit to transfer students who had failed courses elsewhere. In addition, he found that a number of inadequately prepared students managed to enter some of the better schools by first entering at low-standard institutions and then transferring to schools with higher entrance requirements.[85]

Flexner described the programs and facilities of the colleges as deplorable and, in an attempt to improve conditions, made proposals for the development of a national system of medical education. He analyzed population growth, projected the future need for medical care, and evaluated each school in terms of physical and financial ability to provide a modern education. On the basis of these factors, he recommended a restructuring of the entire system by reducing the number of medical colleges from 155 to 31 regional institutions. This would considerably reduce the number of medical colleges. To provide adequate pre-clinical laboratory facilities and an atmosphere conducive to scientific research, Flexner proposed that each medical school be a department of a large university. In addition, the colleges would be established in large cities where there would be sufficient numbers of

potential patients. He further proposed that 20 states be left without any medical schools since there appeared to be an insufficient demand for medical care, a lack of adequate universities, and a financial inability to support the modern university.[86]

The Flexner Report merely restated the work already done by the CME and served to stimulate and support the centralizing influence of the Council. Using Johns Hopkins as a model for medical education, Flexner advocated that medical education be a university function. He felt that through the use of the university system, a need for stricter admissions policies and teaching standards could be realized. He felt that medical education should include a full-time staff, well-equipped laboratories and hospital facilities in order that research could be combined with practice.

As a result of the combined efforts made by the Council on Medical Education, the Association of American Medical Colleges, various state examining boards, certain influential universities such as Johns Hopkins and others, and the Carnegie Foundation for the Advancement of Teaching, there was a general improvement of requirements and standards in the medical colleges of the nation. While at the same time these efforts increased the quality of medical education, the political influence and financial pressures that developed contributed to the threatened elimination of a number of institutions, one of which was the University College of Medicine. Therefore, one should examine the financial influences that contribute to the problem at UCM. If UCM felt pressure

from these efforts of standardizing the curriculum, why did the effects of financial pressure lead to the decline of the institution?

Footnotes

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CHAPTER IV

FINANCIAL PRESSURES THAT CONTRIBUTED TO THE DECLINE OF THE UNIVERSITY COLLEGE OF MEDICINE

Financially, as a result of the impact of actions within the medical community, pressures were brought to bear on medical schools toward establishing uniformity in their operations. The need for standards was beginning to be felt when professors of medicine studied medical science in several European countries. Also, a number of significant practices began to be made in American medical institutions through those medical professors who acquired training in Europe. It is necessary to examine the effect that these pressures of standardization had on American medical colleges and, particularly, on the University College of Medicine. The purpose of this examination is to explore the hypothesis that UCM declined partly because it lacked a financial structure to withstand the financial pressures which grew out of attempts at reforming medical education.

The pressures that came to bear on the University College of Medicine, as well as on other medical schools, seem to be closely associated with medical institutions in general being forced to cease functioning as an old-fashioned proprietary endeavor and to develop itself in the direction of a publicly supported modern medical school. Not only were these pressures political, curricular and structural in nature, they were also financial.

It must be remembered that proprietary medical schools of the country had been undergoing rapid changes during the last decades of the nineteenth century, while at the same time the advances in European science were forcing a massive readjustment in American values. The traditional financial base of the medical school operating solely on student fees could not maintain its existence as in the past and continue to provide high quality medical education. The concept of what constituted an adequate medical education was changing. In addition to national demands for reform, new methods and values began to create new financial pressures for which many medical schools were not able to provide.[1]

The majority of medical schools in America had developed as proprietary institutions. Usually the proprietary group was composed of medical men who stressed two objectives: (1) the education of young men in the medical art, and (2) the self-improvement and advancement of their own standing both in and out of the profession. The course of instruction, brief at first, was extended to two years, then to three, and finally to four. The graded course was a relatively late feature. For many years only one course of lectures was given, and it was repeated each year. If a student who attended all the lectures in his first year came back for a second or third year, he listened to the same lectures over again. The introduction of the graded course was a forward step.[2]

As the graded course approach developed and the numbers and kinds of instructors increased, it became necessary for students to be exposed

to specialized subjects such as anatomy and physiology prior to clinical work. Chemistry, histology, materia medica and pathology were subsequently added to the preliminary training.[3] There were few requirements for admission to medical education at this time.

Many of the proprietary schools, whose income was derived from student fees, were able to pay their expenses and have a surplus at the end of the year for division among the members of the staff. Aside from the profits of the institution, official connection with the staff of a medical school was usually seen as a financial value to the practicing physician or surgeon. The public more often employed practitioners who were teaching in the medical schools.[4] In addition, young graduates who got into difficulties in their own practice usually called into consultation their former professors. This kind of association became so important that some of the incorporated medical schools took advantage of the opportunity in an interesting way. Members of the corporation would agree to admit a practitioner to the teaching staff on payment of a certain sum of money. The cost of a professorship varied with the school, its standing in the community, and in terms of fringe benefits.[5]

As long as teaching in medical schools was largely didactic and demonstrative, the cost of medical education could be held to a minimum. Anatomy was the first subject to be taught other than in a demonstrative way. As anatomic material became more available, requirements were modified and the students dissected for themselves. The material was not expensive, and the laboratories were so crude that little money had to be spent on the workshop.[6]

When the microscope became an important tool in medical education in Europe, American students who had gone abroad for postgraduate instruction came back with enthusiasm for microscopic work and began to insist on instruction in the use of the instrument in histology and pathology. It was soon recognized that medical schools must offer more extensive training in these areas.[7]

The institutions which offered the better facilities in laboratory work began to attract most of the students that were available. Competition grew more intensive among the proprietary schools to develop better laboratory facilities and programs. The proprietary medical schools found themselves in a dilemma. The high cost that accompanied these changes in the curriculum reduced the traditional financial surplus to nothing. Student fees at these institutions became inadequate to supply the money which the rapid change in lab teaching made necessary. Some relief had to be sought. Endowment for proprietary medical schools could scarcely be hoped for. The only relief apparently seemed to lie in some kind of combination of the medical school with the scientific departments of a university that were already either receiving government aid or had private endowment.[8]

In most cases the proprietary school did excellent work in its day. Examples of self-sacrifice can be found in faculty records of such institutions. Especially when the demands of advancing science increased the cost of medical education, there can be found notable examples of generosity and unselfishness. When deficits began to appear, members of the faculty, instead of drawing salaries, recognizing what the school

had done for them in increasing their practice and reputation and having the welfare of medical education at heart, donated money privately to assist the institutions' financial needs.[9] Medical education was becoming so sophisticated that more financial support was needed than the faculty alone could muster and the institutions were feeling strained.

Much of what was happening in medical education from 1890-1920 appears to have been the evolution of the modern medical school. This was an institution perceived as being best attached to a university system. Its function was to turn out well-qualified practitioners of medicine and to add knowledge to medicine.[10] To secure public confidence and support and to maintain high academic standards, the AMA felt that medical schools should be integrated with the rest of higher education, that they should become part of or least be affiliated with universities, and that the proprietary interest of the faculty should cease. To fulfill the functions of a modern medical school, the institution was viewed as needing (1) qualified students, (2) expert teachers, (3) well-equipped laboratories, and (4) ample clinical material. In ways, these elements were interrelated both directly and indirectly and contributed to the development of financial pressures that affected the medical schools.[11]

The majority of medical schools in the United States had developed as proprietary institutions. Some of these schools maintained high educational standards and provided the best possible kind of medical education they could. However, some of the proprietary schools had low educational standards and some were even established as diploma mills. In addition, there were a variety of medical sects during this period also

competing for students. There was an oversupply of medical schools generally and what seemed to be little unity involving the educational standards associated with medicine. Maintaining and elevating educational standards became an important focus for a number of national medical organizations.

At an 1894 meeting the Association of American Medical Colleges recognized the need to raise standards involving preliminary studies, for example, requiring the graduates to take an examination that included an English composition of a prescribed length, arithmetic, algebra through the level of quadratics, elementary physics and Latin. Graduates of reputable colleges, high schools of top quality, normal schools established by the State authority, or those possessing the entrance examination provided by the State of New York could be exempted from this requirement.[12] These preliminary requirements were revised periodically.

Along similar lines, the AMA, concerned with low educational standards in medicine, established the Council on Medical Education for purposes of raising the educational standards. The Council agreed to require students to have by or before 1910 at least one year of university physics, chemistry, biology and one language as preliminary studies before matriculating in a program of medicine.[13] Shortly thereafter, the AAMC and CMEH began to see duality in their standards on medical education and, at a joint meeting in March, 1913, they agreed that before admitting students to medical school, they would be required to have a preliminary college year of at least 32 weeks duration which included courses in biology, chemistry, physics, French and German. It was further agreed

three years later that after January 1, 1918, the requirements for medical admission would be increased from 30 to 60 hours of college credit.[14]

It became apparent that subjects such as biology, chemistry, physics, and others were an important part of the preliminary education of a future physician. However, the availability of such courses did not appear to be as widespread in the South as in other selected areas of the country during the late nineteenth century and first decades of the twentieth.[15] In some cases, medical schools attempted to educate their students that were deficient in science by offering biology, chemistry and physics much like remedial English and mathematics might be offered in selected colleges today. The medical curriculum was advancing so that a knowledge of such subjects was needed before the student began his medical studies.

No treatment of regular medical school subjects such as human anatomy was possible within the time limits of the modern medical curriculum unless previous training in general biology had equipped the student with the necessary fundamental concepts and technical dexterity. In a similar way, physiology was taught with presupposition that the study of anatomy would involve prior training in biology, and it required a similar understanding in chemistry and physics. These steps, however, were only preliminary in one sense. The physician's concern with normal procedures was the starting point at comprehending the abnormal. Pathology and bacteriology were the sciences concerned with abnormalities of structure, function and the causation.[16]

To provide a fundamental understanding of biology, chemistry and physics that was quickly becoming preliminary to subjects in the rapidly

evolving medical curriculum required that medical professors have a keen understanding of these subject areas. However, many of the medical professors had medical training that traditionally possessed less substance than what they were attempting to provide in view of the advancing nature of the modern medical curriculum. Therefore, many professors were deficient in such understanding. A large number of these men attempted to teach themselves what they did not formerly know and even fewer numbers could afford to travel to Europe for study. Although this handicap was widespread, it was felt more in some locations than others - especially the South.[17]

These steps taken to improve preliminary education for students began to have a positive influence on the quality of medical education that could be offered. A related factor that also had a bearing on medical education was the qualifications of the instructors. To provide advanced instruction in medicine, it was important that the instructors be qualified as full-time teachers.

Experienced instructors, trained in their respected subjects, were needed in such medical courses as anatomy, physiology, bacteriology and others. However, it was difficult to secure top-quality, full-time teachers. One reason for this was that most of the medical schools were not well off financially to pay the teachers salaries that they deserved.[18] Full-time professors demanded a higher teaching salary, especially if they could not have a private practice. Institutions paying top salaries were sought by high-quality medical men. Also, these institutions could be made still more attractive if colleges could supply the professors with a large number of assistants and better facilities so they would have the time and opportunity to carry on research work.[19]

In a related area, there were few instances where American medical schools had placed clinical professors on definite salaries and limited them from private practice. However, this plan was seeking acceptance from the medical schools. The plan used by the German universities seemed to come nearest to the ideal of what the AMA had in mind. There, the clinical professor was chosen because of his scientific ability, and he received a fair but moderate salary and was made to feel that his university and hospital work was of first importance. He devoted four to five hours each day to his clinical cases, to teaching or to research work. It was also recognized proper for him to have a limited amount of private practice as long as it did not interfere with his university work. The clinical professor had to be a renowned physician, a trained teacher who was competent to carry on, direct and stimulate research.[20] Similar to the German concept of professor, the clinical professor would be one who had a number of salaried associates and assistants devoting their entire time to clinical work, teaching, and research. These workers would receive salaries large enough to enable them to live, but not unusually large since the training they received could be regarded as valued compensation.[21]

To be able to pay regular medical professors, clinical professors and assistants decent salaries, monies from sources other than student fees were required. Endowments were needed and governmental aid was sought by many schools. More money was needed to pay for the services of better educated teachers and on a full-time basis.

As long as teaching in medical schools was largely didactic and demonstrative, the cost of medical education could be held to a minimum.

However, in Europe during the nineteenth century scientific knowledge developed rapidly. Pathology, physiology, bacteriology and chemistry became firmly established among the sciences; and by the close of the century, appreciation of their value to medicine was growing. Laboratories were essential for the study of these sciences and they were developing in increasing numbers. These workshops produced more accurate methods for the study of disease. At the same time, they opened the way to more effective methods of teaching which, incidentally, required more time and equipment. Gradually, a parallel development took place in the United States, and medical schools with access to laboratory and hospital facilities began to assume educational leadership.[22]

After its renaissance in 1890 the AAMC played a major role in improving medical education and establishing a four-year curriculum. Of all the regular schools in the country, more than half belonged to the Association and were committed to its standards. These standards were realistic and practical and took into account prevailing circumstances.[23]

The AAMC produced a syllabus that was a recommended blueprint of medical education for the future, rather than a description of ongoing procedures. Although it designated when and what courses should be offered during the medical school experience, a description of how selected medical laboratories should be conducted was presented. It must be remembered that most of the American medical schools had been largely didactic. Laboratory work, just beginning to gain in popularity, was expensive.[24]

In a discipline such as physiology, laboratory work for most institutions might be difficult to provide since many of the members of the AAMC

had not yet established the facilities. Since much personal supervision would be required, large classes were impractical. This was a change from the old days of large lectures.[25]

The syllabus recommended one demonstrator and one assistant to supervise the work of 30 students. A three-hour period per week for each student throughout the year was considered satisfactory. In this way two instructors would be able to supervise the work of 180 students, meeting 30 students each day.[26]

In a similar area, the popularity of courses such as bacteriology was growing quite rapidly. Until 1894-1895, the municipal health authorities paid little attention to bacteriology and did not maintain a city laboratory. However, with the discovery of the diphtheria antitoxin, there developed a greater interest in the subject and a public demand for a bacteriology laboratory for diagnosis. Soon, numerous ambitious young men went to Europe to gain experience, and with public interest aroused through the achievements in the treatment of diphtheria, bacteriology became established in the curricula of all medical schools.[27]

It was recommended that each week there would be three two-hour laboratory periods plus two lectures or conferences. Here, the student would prepare culture media, cultivate bacteria, secure pure cultures of both pathogens and non-pathogens from raw material such as hay, potatoes, feces, abscesses and related materials. In addition, the medical student would use excretia from appendicitis, the membranes of diphtheria, the spleen of typhoid, the lung of pneumonia and other sources for classroom study. Such recommendations depended upon personal factors, equipment, time and interest.[28]

It should be noted that in courses such as bacteriology many of the instructors were not well trained and struggled against adverse circumstances such as shortages of equipment and the need to improvise. During the early 1890's instruction in bacteriology was under three severe handicaps - lack of trained personnel, lack of equipment and lack of funds. These handicaps surely affected other areas of medical education also.[29]

In the basic sciences there were too few men capable of effective teaching. The discoveries of the medical sciences had markedly changed medical practice, and this made necessary many profound changes in medical education. However, the new medical education proved to be very expensive.[30]

As the hospitals and medical schools developed independent to one another, it became apparent that the proprietary medical school needed the experiences in hospitals and clinics. Clinical teaching was, therefore, carried out in local hospitals and out-patient clinics and cost the medical school little if anything. Students may have been required to pay a hospital fee, but this was probably a relatively small amount. The hospitals did not usually belong to the medical schools, and it was often necessary to include in the medical faculty those physicians and surgeons who had appointments in the hospitals and dispensaries. Where these clinical institutions were controlled by politicians, the best practitioners were not always on the staff. It is evident here that not all of the decisions involving the medical school's staff assignments were sound educationally.[31]

Clinical teaching has had a similar history as that of anatomical instruction. It was first didactic. The student was told what he would find and what he should do when he found it. Next, it was demonstrative. Important points were brought out in the amphitheater or in the wards. The students who got the front seats could see better than those behind them and, consequently, were able to learn more through observation. Later, clinical instruction became scientific. Here the student began to bring his own faculties into play at close range - gathering his own data, proposing his own course, and taking the consequences when the instructor who had worked through the same process cross-examined the student.[32]

Both the hospital and the dispensary were important features in providing clinical opportunities for the students. From a teaching viewpoint, working in hospital and dispensary environments provided different opportunities that were essential to the developing physician. Certain classes of medical cases did not usually enter the hospital. Minor surgery, minor medical ailments and numerous afflictions involving the eyes, ears, nose, throat, skin and similar areas did not usually require hospitalization. Hospitals were needed for cases requiring beds for ill patients whose disorders required close and continued scrutiny.[33]

The dispensary was better adapted to show a large variety of conditions. However, it was a relatively poor place to watch for the development of a medical disorder. In the dispensary students could acquire first-hand experience in initial physical examination, but only the hospital wards enabled him to study progress and to observe nature's reaction to therapeutic moves. The dispensary corresponded to the office

hour, while the hospital ward represented the sick room. Both facilities were useful and necessary in handling the clinical material that passed through.[34]

The clinical work of the teaching plant was seen as an equally important part of the overall education offered but was costly to provide. The Council on Medical Education claimed that the essential components of clinical work included a modern hospital having for each clinical department a leader with assistants. The other aspect was the dispensary or out-patient service. For each clinical department the Council felt there should be available clinical and research laboratories, classrooms, operating rooms and other necessary items.[35] In the best conditions each clinical department needed to be able to operate independently and required its own laboratories, classrooms, operating rooms and personnel.

For a university to build and maintain its own teaching hospital was viewed by some as not the best position to be in in all instances. However, it was held that perhaps a better arrangement would be if the larger municipal hospitals were conducted as scientific institutions in charge of the teachers and investigators of the strong university medical schools.

In a similar vein, Flexner noted that an important supporting feature of clinical instruction must be a pedagogically controlled hospital. He noted that although the exact status may vary, it was crucial for the hospital to be of sufficient size, be equipped with teaching and working quarters closely associated with the fundamental laboratories of the medical science, and have its faculty as the sole and entire hospital staff. It

was also important that the teaching arrangements be a faculty matter subject to such oversight that would protect the welfare of the individual patient.[36]

Although there was a tendency to have worthy medical schools merge with university systems during the period, the CME held that for the university to build and maintain its own teaching hospital may not be the best step in all instances. It was felt that it would be best for all concerned if the great municipal hospitals in the U.S. were conducted as scientific institutions in charge of teachers and investigators of the strong university medical schools. This was seen as keeping the best interests of the patient in sight since they would have the benefits of the best methods of treatment under recognized experts.

Although university-conducted hospitals were present in numbers through the better institutions, the large charity hospitals were needed by the medical schools for additional clinical material and the charity hospitals needed the medical schools and the services of clinical experts serving as teachers.[37]

In recognizing medical education in this country, the Council saw that the medical profession must accomplish three great tasks. One was to urge the state board to require that amount of medical training which was necessary before the medical student could safely begin independent practice. Another was to secure through the universities and from other sources sufficient funds to place medical schools on a full university basis and, at the same time, organize the medical departments on the general lines of the German universities so as to develop the trained teachers which were needed. In this reorganization state aid and private

endowment and the support and cooperation of the university officers and trustees were needed. Finally, the proper affiliation between the great charity hospitals had to be convinced of the importance of developing the teaching and research functions of the hospital.[38]

The traditional American medical school operating on student fees could not exist as in previous years and continue to provide a high quality medical education. The concept of what constituted an adequate medical education was changing. Advances in European science had forced a massive readjustment in American values. In addition to national demands for reform, new methods and values began to create new financial pressures for which many medical schools were not able to provide. The medical curriculum and overall structure of medical education was being modified which, in turn, affected the quality of students matriculating and medical professors who were teaching. The proprietary schools began to find themselves in a dilemma. The high cost which accompanied these changes in the curriculum not only reduced the financial surplus that the proprietary schools once enjoyed but erased it altogether. Deficits increased and had to be faced. Student fees at these institutions became inadequate to supply the money in which these rapid changes made necessary. The only financial relief apparently lay in a medical school combining itself with the scientific department of a university which either received government aid, had private endowment, or both. In some cases this route was followed by schools which had a university they could unite with. For others, it meant merging with other medical schools; and for still others, it meant dying altogether.

In most cases, the proprietary school did excellent work in its day, and examples of self-sacrifice can be found in its faculty records.[39] When the demands of advancing science increased the cost of medical education, there were notable instances of generosity and unselfishness. When deficits began to appear, members of the faculty often made private donations to assist the institutions' financial needs.

In terms of financial strength, the future was dim. The University College of Medicine in Richmond, Virginia, was one of these institutions that was forced to act in the face of mounting deficits. Without a nearby public university system with which to affiliate, the only choices left for the institution were either to merge with the nearby struggling Medical College of Virginia or to die altogether.

Footnotes

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16. Abraham Flexner, Medical Education in the United States and Canada (New York: The Carnegie Foundation for the Advancement of Teaching, 1910), p. 24.

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30. Ibid. King, p. 87.

31. Ibid. Barker, p. 143.

32. Ibid. Flexner, p. 93.

33. Ibid. pp. 95-96.

34. Ibid.

35. Ibid. A.M.A., 1912, p. 1796.

36. Ibid. Flexner, p. 106.

37. Ibid. A.M.A., 1912, p. 1797.

38. Ibid.

39. Ibid. Barker, p. 144.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS FOR FUTURE RESEARCH

Throughout America generally, medical training of physicians moved towards professional maturity during the latter half of the nineteenth century. Selected colleges and universities along with licensing agencies and professional associations helped to guide medical training into forms that are familiar today. These organizations began to share similar desires, such as upgrading entrance requirements into medical school, prescribing curricula in the medical schools, eradicating the weakest institutions, reducing the number of medical school graduates, and certifying physicians.

To offset the migration of southern students into northern medical schools for a better quality of medical education, to produce superior southern physicians, to make use of the clinical potential of the urban Richmond area, and perhaps as a means of attracting patients, a new medical school was founded in 1893 in Richmond, Virginia. It rapidly acquired a good reputation within the state, attracted a large number of students compared with what the other two Virginia medical schools had and offered curricular and administrative modifications. This institution was first called the College of Physicians and Surgeons, but was soon renamed the University College of Medicine. UCM was created in the midst of a national medical reform movement and made a number of

state and regional contributions in medical education. However, in view of the pressure created by this reform movement in medical education, UCM existed for only 20 years .

One hypothesis of the study was to examine the political influences that selected organizations had on medical colleges and particularly on the University College of Medicine. The focus of the issue here was to explore the notion that UCM declined partly because of the political pressure exerted by these several groups.

One of the first steps that created pressures was the AAMC's requiring adherence to regulations of medical education. This organization was powerful because it comprised American medical colleges. Its intent was to advance medical education in the U.S. and establish a common policy among medical colleges in matters of college management. Through registration it recognized a list of acceptable schools and one of rejects.

Before the 1890's the AAMC began to question the admission requirements, course duration and the content of training required for an acceptable medical education. In 1891 the organization was joined in the struggle for reform by the National Confederation of State Medical Examining and Licensing Boards. Persuading medical schools to elevate their educational standards had been unsuccessful in the past due to the absence of enforcement. When suggestions for improvement among the medical schools were made a requirement for licensing, there developed a better chance for success.

Between 1900 and 1910 the tempo for reform had accelerated. The AAMC had reorganized its efforts on improving entrance requirements into

medical schools, extending the years of medical study and length of session and modifying the curriculum to include more laboratory work and clinical experience. These actions by the AAMC created reform pressure which affected the University College of Medicine.

Another important organization that was active at reform along similar lines as the AAMC was the AMA's Council on Medical Education. Publication of the Council's guidelines in JAMA served as a point of political pressure to use against the medical schools. This journal was widely circulated and carried the weight of most organizations, colleges, and practitioners in the profession.

Institutions that were members of the organization were pressured to adopt selected standards in preliminary education, the medical course, and similar requirements if they did not already recognize them. In addition, there may have been institutions that had become lax in following the rules. Their reform was needed too. After first establishing a standard of medical education towards which it might work, the Council began to investigate the existing conditions in regard to medical students. The first piece of evidence included information on examination scores of students taking state board exams. From such reports the CME was able to rank the medical schools in the country. Class 1 institutions had less than 10 percent failures, Class 2 had from 10 to 20 percent, and Class 3 had more than 20 percent failures. Schools designated as Class 4 were more questionable.

From this information it was easy to see which schools were producing the greater number of failures. These actions created political pressures which forced many institutions to improve their standards. Such pressure

would seem to be a motivating force for reform from within the institution.

In addition to ranking schools, the Council became more directive when it made its decision to create on-site inspections in 1906. In its report the Council categorized the schools on an ABC basis according to their quality. Following the report of its first inspection, a number of medical school mergers developed. Also, as a result, some state boards refused to examine some medical school graduates from low-graded schools, and a number of institutions were forced to close. Many of the revisions and improvements made in medical education were a result of the regular publication and revision of these classifications.

By 1909 the second tour of inspection was completed and selected guidelines of an acceptable medical college were published along with a revised ABC rating of medical schools. During 1911 a third inspection was made.

Results from these three investigations led the CME to believe that still additional work was needed in investigating and reporting on medical schools. Clearly, these reports helped to create a pressure on the medical schools so they would either conform to the standards, be forced to close or make some other arrangements such as possibly merging with other institutions. In effect, the Council was serving as an agency on education, and its influence touched not only medical schools but also secondary schools, colleges, and universities in light of the changing preliminary requirements into medical school. This influence had an

effect on students in Virginia and neighboring states who aspired to attend the University College of Medicine but, in view of the changing requirements, would not be qualified to attend.

As results of the investigative reports helped to cause reform, the Council increased its political influence to weed out unfit schools, encourage full-time professors in the scientific branches, demand bedside clinical teaching, and to provide adequate laboratory and hospital training and facilities. UCM was under stress to comply with these standards.

The CME worked through the AMA's organization to establish some of the early curricular changes among medical schools. Soon influence was gained and the CME affected the structure of the institutions. However, this work occurred at a time when other organizations were making their weight felt in the field of medical education also. With political pressures from growing and increasingly organized national medical groups, UCM was finding it more difficult to meet all of the requirements. Similarly, the CME encouraged curricular change which, in turn, would affect the structure of UCM.

Other groups that brought about pressures were those such as the Association of American Medical Colleges, the National Confederation of State Medical Examining and Licensing Boards, and others. By 1907 the reform steps taken by the AAMC became more stringent and their efforts caused a move to support the AMA's list of medical schools prioritized on the ABC basis. The pressure created by prioritizing caused extreme hardships on UCM.

To improve the standards of medical education through the influence of state board regulations and licensure examinations, the National Confederation of State Medical Examining and Licensing Boards created pressures for medical colleges to adopt their standards. Somewhat later the Confederation of Reciprocating State Medical Examining Boards was created in an attempt to promote a plan for the reciprocal exchange of physicians. This created even more pressure.

By 1910 the aims of the American Confederation and the National Confederation had developed to the point that a merger of the two organizations was effected. The united efforts made by these organizations created such an influence for reform among the medical schools of the country that a number of institutions either reorganized their offerings, merged with other institutions, or died.

The work of the above organizations was necessary to the reform movement in medical education. Nevertheless, such organizations were seen as being too closely related to the medical scene to be thought of as impartial observers. It was at this point that the Carnegie Foundation for the Advancement of Teaching became involved in the reformation of medical education.

It occurred to some members of the CME that if they could obtain the publication and approval of their work by the Foundation, it would assure the results the CME was attempting to bring about. While the Foundation was guided largely by the CME's investigations, to avoid any claims of partiality, little attention was given to the Foundation in the CME's reports. Thus, the investigation had the weight of an independent report from a disinterested body and was believed to be more influential in developing public opinion.

Perhaps the Carnegie study by Abraham Flexner contributed nothing new to the previously published proceedings by the CME. Nevertheless, the way the report was written, its broad circulation and independent nature, and its sponsor helped to make the study a powerful and effective political tool for medical educational reform. The Flexner Report became germinal to the whole reform movement. The force, both direct and indirect, of the Report had an effect on the stability of the University College of Medicine.

The activities of the organizations that have been discussed created such an intense degree of pressure for reform in medical education that those institutions possessing the greater financial base and its related support more easily changed and improved according to the requirements mandated by the national organization. However, UCM, not possessing the necessary financial resources to comply with recommendations, declined in student enrollment and program effectiveness and eventually was forced either to merge with MCV or to die.

In a manner similar to the way medical schools had been affected politically, it was hypothesized that the curriculum and structure of the medical school was also being altered through the reform measures advocated by similar organizations. The University College of Medicine was being affected through the demands for raising entrance requirements, modifying course offerings, and expanding the school calendar. Such pressures for change altered the image of the institution and affected its operation.

Shortly after the organization of the Council on Medical Education in 1904, it discovered that the existing conditions of medical education

in the U.S. were not satisfactory when compared to those in England, France, and Germany. The Council agreed that American education must be made equal to that in those countries. One area dealt with the quality of the students in medical schools.

It was pointed out that the evaluation of statistical tables in JAMA on the performance of recent medical school graduates was considered as the fairest basis for comparison between colleges. It was recommended that any classification of medical colleges from the standpoint of failures at state board examinations should be based on such tables. In making comparisons on the basis of statistics, several factors were brought out. The number of students examined was important because if all other conditions were equal, the larger numbers of graduates examined presented the more reliable findings.

It could be concluded that a school graduating 90 students annually who experienced only a two percent failure rate on a state board examination could be seen as having a stronger academic program than a school graduating eight students who experienced a one percent failure rate. Similarly, the number of different states in which a school's graduates have been examined was significant. The higher the success in the larger number of states, the more reliable the education that was used in training the students. Still another factor related to the boards. The character of the boards preparing the examinations and the methods employed by them were important factors to be considered since some boards apparently had more demanding grading policies, while others may have been very lenient. Publishing this kind of information suggested to the reader the schools that were academically sound.

Another point of comparison was that some colleges displayed an improvement in teaching methods which was apparent from the fact that while the percentage of board failures was high for old practitioners, they were lower for recent graduates. Other colleges often showed little or no improvement from recent graduates. Another way to enforce improved teaching methods included site inspections which bears out the statement that apparently some of the institutions were teaching medicine in 1911 no better than they did ten or more years previously, while others had improved significantly. This kind of exposure had to be damaging to weaker schools. They would either have to improve their academic programs drastically or experience an enrollment decrease which could be fatal.

In a related area, selected tables showed for each college the states in which its diplomas were not given unqualified recognition. A change in recognition of diploma was experienced by different terms and different states. Institutions whose diplomas were given unqualified recognition were apparently in satisfactory standing because they maintained adequate entrance requirements, they exhibited a suitable curriculum and possessed physical and clinical facilities in line with the leading medical educational associations and licensing boards. By having a sound academic program in medicine, the state board examination results of graduates would be expected to appear higher than those who came from weaker programs. Publication of these data had to be influential in attracting potential students. This ultimately had to affect the curriculum, structure, and finances of the school.

As another means to exert influence for curricular improvement, the Council established a personal inspection of the 160 institutions. These

inspections were needed to determine the adequacy of the physical facilities as well as the competency of the instruction given. The Council divided the country into sections and each of the 160 or more schools was visited in 1906 either by some member of the CME, by its secretary N. P. Colwell, or by both.

This attempt at classifying institutions was presented to the third annual conference of the CME in 1907. The report was publicized throughout the institutions and was sent to the state licensing boards; however, it was not made available in JAMA. The inspection revealed that of the 160 institutions, 82 were in Class A, 46 were Class B, and 32 were in Class C.

A certain degree of change in admission requirements of medical education was experienced. Fifty institutions agreed to require by or before 1910 at least one year of university physics, chemistry, and biology, and one modern language as preliminary studies before matriculating in a program of medicine. Very soon a number of consolidations developed in some cities having several schools. In addition, as a result of some state boards refusing examinations to their graduates, a number of institutions closed. By the time of the second inspection tour in 1910, the number of schools had been reduced from 160 to 126.

In making this inspection the Council was lenient in grading the poorer schools. It believed that its first report should be presented to the state licensing boards and to the conference but not published with details. It was agreed that a minimum standard on what shall constitute a recognized medical school be agreed on and that the schools below this

standard be given a reasonable time to bring themselves up to this standard. In case they did not, their standing should be publicized and they should no longer be recognized by the state boards. This kind of political pressure by the CME was found to be effective in guiding schools into meeting their guidelines.

Publication of the inspections of the medical colleges served as another element of pressure. Within two years (1909) the second tour of inspection of the medical colleges of the U.S. was completed and additional data were collected. This time medical schools in Canada were included in the inspection. Reports from the medical colleges were reviewed and compared with the purpose of finding the average condition. From this study of the extant conditions and with a view of the immediate needs of medical education, an outline of the "Essentials of an Acceptable Medical College" was prepared. The outline represented the majority of conditions which were below average that existed in nearly all of the colleges in the U.S. and Canada and is included in Appendix A.

In this second inspection the University College of Medicine, the Medical Department of the University of Virginia, and the Medical College of Virginia earned a Class A rating. Apparently these inspections were successful in eliminating some of the weaker institutions, while serving to strengthen others such as UCM, which was struggling to upgrade medical education standards.

By now the Council believed that the time had come when the best interests of medical education demanded that this rating of institutions should be made public. As the work of the CME developed, it became

apparent that if it could secure the publication and approval of its work by the Carnegie Foundation for the Advancement of Teaching, this might help secure the results that it was seeking.

The CME also sought the cooperation of universities of the country to place future American medical schools as a department of a university. Rapidly, many of the better medical schools sought affiliation with the universities.

For the first time in the history of medical education in the U.S. there was made available a complete classified list of all the medical colleges in the U.S. and Canada. Shortly after the report was published, 19 additional medical colleges were either closed or merged with other institutions. Indicative of the influence of the national organizations, a total of 56 schools had been closed since the Council's first classification was reported in 1907.

As its criteria for evaluation during the third inspection in 1911, the CME used the outlined "Essentials of an Acceptable Medical College," similar to the one they used during the second tour of inspection. A major difference between the second and third was the use of a more stringent grading scale. The criteria for this grading scale changed both in content and structure with each inspection.

Although the number of medical colleges had been sharply reduced through the use of the scale, further reduction was sought because it was believed that a smaller number of better equipped institutions would remain. There were several locations where further mergers were sought since two or more medical schools were competing for clinical facilities in local hospitals and, as a consequence, neither seemed to secure

adequate advantages. This was particularly true in Atlanta, Dallas, Memphis, Milwaukee and Richmond. It was held that a merger of the institutions in these cities would not only give to strong institutions all the privileges divided among the separate institutions, but additional privileges might also be secured.

In addition to pressures by the CME in areas of quality of students, teaching methods, diploma requirements, personal inspections and publication of inspections, the CME endorsed specific curricular requirements and new admission requirements. Among these requirements was establishing a fifth year of study for the status of advanced graduate students and examining the preparation of the professors.

The forces that came to bear on UCM helped change it from a proprietary institution to one that would be better prepared to offer a medical program. When the AMA's Council on Medical Education became established in 1904, reform measures in medical education began to emerge more rapidly than before. Entrance standards into medical schools were advanced. The medical curriculum was modified, and the duration of the medical program was lengthened. The Council served as a national bureau concerned with improving medical education. Much of its success was attributed to the publicity and support by the medical profession. Its grading scales, physical plant inspections and its collaborations with the AAMC, the Carnegie Foundation for the Advancement of Teaching, and selected state board examining and licensing organizations made it especially effective in creating a great deal of pressure to reform in medical colleges of the period. This pressure for reform brought about positive changes in the institutions which were able to make available

the money, staff and related materials. For those which were lacking in these areas, the future existence of the institutions was uncertain.

In a similar vein, the Association of American Medical Colleges organized to improve medical education standards before the turn of the twentieth century. They created pressures among institutions to effect curricular and structural changes in their programs. They, too, used on-site visits, publicity and collaboration to create pressure for reform among the medical schools.

The third organization that brought pressure to bear on these schools was the Carnegie Foundation for the Advancement of Teaching. It, too, examined similar areas as the CME and AAMC. A significant difference is that the Carnegie Foundation for the Advancement of Teaching was commissioned by the AMA, thereby creating a double thrust to improve medical education.

It is clear that publication of its report by Flexner did not serve as a positive stimulus for the institution and indeed could have been a deterrent in the school's ability to attract new students. This could have caused a decrease in student enrollment. By having fewer paying students, the amount of tuition fees was reduced. This meant that with a decreased income, less money could be devoted towards upgrading medical education standards. In this way, the Report was oppressive to UCM.

Reform of medical education affected the structure and curriculum of the school. As curricular requirements expanded, it became increasingly difficult for medical colleges to maintain the educational standards set forth by the CME, the AAMC, licensing agencies, and those found in the Carnegie Foundation Report prepared by Flexner.

In a third hypothesis it was contended that the decline of UCM happened basically because of the lack of a sound financial structure. Therefore, the cost of a quality medical education grew beyond the amount received by tuition alone. Additional financial support was needed so the institution could keep up with the increasing requirements which were designed to make the institution exhibit a higher academic quality in medical instruction. It remained for UCM to initiate action to gain endowments, governmental support and similar sources needed for the medical school to meet the necessary recommendations. Did UCM possess an internal structure that would actively pursue these sources?

In recognizing medical education in this country, the Council felt the medical profession must require enough medical training so that the student would be proficient enough to begin an independent practice. However, it would be necessary for the school to be able to secure through the universities and others sufficient funds to place medical education on a university basis and to organize the medical departments and develop the trained teachers that were needed. In addition, proper affiliation between the great charity hospitals and medical schools was required. The governing bodies of the hospitals had to be convinced of the importance of developing the teaching and research function of the hospital.

The traditional American medical school operating on student fees could not exist as in previous years and continue to provide a high quality medical education. The concept of what constituted an adequate medical education had changed. In addition to national demands for reform, new methods and values began to create new financial pressures for which many medical schools were not able to provide. The medical curriculum

and overall structure of medical education was being modified which, in turn, affected the quality of students matriculating and medical professors who were teaching. The proprietary schools began to find themselves in a dilemma. The high cost which accompanied these changes in the curriculum not only reduced the financial surplus that the proprietary schools once enjoyed, but erased it altogether. The only financial relief apparently lay in a medical school combining itself with the scientific department of a university which either received governmental aid, had private endowment or both. In some cases this route was followed by schools who had a university with which they could unite. For others it meant merging with other medical schools, and for still others, it meant closing.

Much of what was happening in medical education from 1890 to 1920 appears to have involved the evolution of the modern medical school. This was an institution perceived as being best attached to a university system. To fulfill the functions of a modern medical school, the institution was viewed as needing qualified students, expert teachers, well-equipped laboratories, and ample clinical materials. In ways these elements were interrelated both directly and indirectly and contributed to the development of financial pressures that affected the medical schools.

In terms of financial strength the future was dim for a number of medical schools. The University College of Medicine in Richmond, Virginia, was one of these institutions that was forced to act in the face of mounting deficits. Without a nearby public university system with which to affiliate, the only option left for the institution was to merge with the nearby struggling Medical College of Virginia or to die.

Of those factors that were influential in the decline of the University College of Medicine in Richmond, Virginia, from 1893 to 1913, there were other topics suggested in the documents that would require further research.

As the study progressed, it became evident that an analysis of these same factors should be done at MCV and UVA. Perhaps the results of the analysis could be compared to discover which institution felt the greatest pressure.

In some instances, having departments of medicine, dentistry, and pharmacy may have been viewed as a burden for UCM since each department had accreditation pressures which affected the operation of the departments. However, at the time of its origin, UCM was the only school in the state offering all of these professional disciplines. A subject for inquiry would be to determine the impact that these professional departments had on education in Virginia during this period.

Another topic for research could deal with the relationships between the Virginia Hospital and UCM and the resulting attitudes held by administrators of the Virginia Hospital.

The assumption of the Virginia Hospital by the Corporation of the University College of Medicine was believed initially to be a great utility as a teaching adjunct, but its maintenance and the payment of indebtedness produced a heavy burden. An analysis of the relationship that existed between the Virginia Hospital and UCM could reveal useful information.

By adhering to more stringent requirements for entrance into the medical department at UCM, more students would be lost by graduation

than gained by matriculation. The medical department could not hope for a larger revenue from medical students. Apparently, the institution could only expect to maintain its current income around 1906 by increasing the number of dental and pharmacy students and raising the rate of tuition in these departments. How did this feature affect the overall performance of the medical department?

While the dental department was a source of profit to the Corporation for a time, most of the money it earned had to be used for the general expenses of the Virginia Hospital and the College. Further research is needed to analyze this situation.

The dental department was found to be not properly equipped and had an insufficient number of teachers during part of its existence. The department was ordered by the Association of Dental Colleges to raise tuition. The College was faced with either abolishing the department or raising its standards in order to be on a competitive basis with other dental schools. Were there political, curricular, and financial pressures that affected the operation of the dental department? Additional study is needed to determine this.

While the University College of Medicine in Richmond contributed to the development of medical education within Virginia, the work of the college occurred at the wrong time and was swept into a larger more drastic national movement in medical reform. Ironically, the college was created in the midst of the larger national reform in American medical education, and yet it was the impact from this very reform movement that led to the demise of UCM. It was made clear in this study that the political, curricular and structural, and financial pressures from the greater reform movement were influential in the decline of UCM.

APPENDIXES

APPENDIX A

ESSENTIALS OF AN ACCEPTABLE MEDICAL COLLEGE

1. Strict enforcement of all standards and requirements, the college itself to be responsible for any instances where they are not enforced.
2. A requirement for admission of at least a four-year high school education superimposed on eight years of grammar school work, or the actual equivalent education, this to consist of 14 units as defined by the College Entrance Examining Board and required by the Carnegie Foundation for the Advancement of Teaching.
3. As soon as conditions warrant, the minimum requirement for admission should be enlarged to include at least one year's college work each in physics, chemistry and biology and a reading knowledge of at least one modern language, preferably German or French.
4. A requirement that students be in actual attendance in the college within the first week of each annual session and thereafter.
5. That actual attendance at classes be insisted on except for good cause, such as for sickness, and that no credit be given under any circumstances for less than 80 percent of attendance on each course.
6. That advanced standing be granted only to students of other acceptable colleges and that in granting advanced standing there shall be no discrimination against the college's full course students.
7. Careful and intelligent supervision of the entire school by a dean or other executive officer who holds, and has sufficient authority to carry out, fair ideals of medical education as interpreted by modern demands.
8. A good system of records showing conveniently the credentials, attendance, grades and accounts of the students.
9. A fully graded course covering four years of at least 30 hours per week of actual work; this course should be clearly set forth in a carefully prepared and printed schedule of lectures and classes.
10. Two years of work consisting largely of laboratory work in thoroughly equipped laboratories in anatomy, histology, embryology, physiology, chemistry (inorganic, organic and physiologic), bacteriology, pathology, pharmacology, therapeutics and clinical diagnosis.

11. Two years of clinical work largely in hospitals and dispensaries, with thorough courses in internal medicine (including physical diagnosis, pediatrics, nervous and mental diseases), surgery (including surgical anatomy and operative surgery on the cadaver), obstetrics, gynecology, laryngology, rhinology, ophthalmology, otology, dermatology, hygiene and medical jurisprudence.
12. At least six expert, thoroughly trained instructors in the laboratory branches, salaried so they may devote their entire time to instruction and to that research without which they cannot well keep up with the rapid progress being made in their subjects. These instructors should rank sufficiently high to have some voice in the conduct of the college. There should also be a sufficient number of assistants in each department to look after the less important details.
13. The medical teaching should be of at least the same degree of excellence as obtained in our recognized liberal arts colleges and technical schools.
14. The members of the faculty, with a few allowable exceptions, should be graduates of institutions recognized as medical colleges and should have had a training in all departments of medicine. They should be appointed because of their ability as teachers and not because they happen to be on the attending staff of some hospital or for other like reasons.
15. The college should own or entirely control a hospital in order that students may come into close and extended contact with patients under the supervision of the attending staff. The hospital should have a sufficiently large number of patients to permit the student to see and study the common varieties of surgical and medical cases as well as a fair number in each of the so-called specialities.
16. The college should have easily accessible hospital facilities of not less than 200 patients which can be utilized for clinical teaching (for senior classes of 100 students or less), these patients to represent in fair proportion all departments of medicine.
17. The college should have additional hospital facilities for children's diseases, contagious diseases and nervous and mental diseases.

18. Facilities for at least five maternity cases for each senior student, who should have actual charge of these cases under the supervision of the attending physician.
19. Facilities for at least 30 autopsies during each college session (for senior classes of 100 students or less).
20. A dispensary or out-patient department, under the control of the college, the attendance to be a daily average of 60 cases (for senior classes of 100 students or less), the patients to be carefully classified, good histories and records of the patients to be kept and the material to be well used.
21. The college should have a working medical library to include the more modern text and reference books and 10 or more leading medical periodicals; the library room to be easily accessible to students during all or the greater part of the day; to have suitable tables and chairs and to have an attendant in charge.
22. A working medical museum having its various anatomic, embryologic, pathologic and other specimens carefully prepared, labeled and indexed so that any specimen may be easily found and employed for teaching purposes.
23. A supply of such useful auxiliary apparatus as a steropticon, a reflectoscope, carefully prepared charts, embryologic or other models, manikins, dummies for use in bandaging, a Roentgen ray or other apparatus now so generally used in medical teaching.
24. The college should show evidence of reasonably modern methods in all departments and evidences that the equipment and facilities are being intelligently used in the training of medical students.
25. A statement in which the college's requirements for admission, tuition, time of attendance on the classes, sessions and graduation are clearly set forth should be given, together with complete lists of its matriculants and latest graduating class in regular annual catalogues or announcements. (American Medical Association, "Report of the Council on Medical Education," Journal of the American Medical Association June 1910 54(24): 1974-1975.)

APPENDIX B

A LIST OF ABBREVIATIONS

AAMC:	Association of American Medical Colleges
ACRELMB:	American Confederation of Reciprocating, Examining and Licensing Medical Boards
AMA:	American Medical Association
CME:	Council on Medical Education
CRSMEB:	Confederation of Reciprocating State Medical Examining Boards
FSMB:	Federation of State Medical Boards
JAMA:	Journal of the American Medical Association
MCV:	Medical College of Virginia
NCSMELB:	National Confederation of State Medical Examing and Licensing Boards
UCM:	University College of Medicine

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Abstract

THE UNIVERSITY COLLEGE OF MEDICINE IN RICHMOND, VIRGINIA, 1893-1913: A STUDY OF INSTITUTIONAL DECLINE

Byron Lee Woodruff, Ed.D.

The College of William and Mary in Virginia, March 1986

Chairman: Professor John R. Thelin

The purpose of the study was to examine selected factors that were influential in the decline of the University College of Medicine (UCM) in Richmond, Virginia, from 1893 to 1913. UCM was created in the midst of a national medical reform movement. In ways, the institution directly contributed to the reform of medical training in Virginia.

It was the writer's contention that the decline of UCM happened because of the political pressures emerging from medical accrediting agencies, licensing and examining boards, and related organizations. The character of the institution was modified through recommendations of external organizations and coercion was felt through advancing accreditation standards. It was further hypothesized that the curricular and structural pressures from accreditation requirements became oppressive and led to the decline of the institution. Finally, it was hypothesized that the decline of UCM was affected because of the lack of a sound financial structure. Without such a structure, implementation of recommended improvements in medical education would not have taken place because of the high cost.

The historical method of research was used in writing about selected factors which affected the decline of UCM. This method allowed for the examination of primary source documents, the obtaining of oral testimony from participants and observers, and the scrutiny of relationships which existed among individuals, institutions, organizations and events.

It was concluded that what constituted an adequate medical education had changed. In addition to national demands for reform, new methods and values began to create new financial pressures for which many medical schools were not able to provide. The only financial relief apparently lay in a medical school combining itself with the scientific department of a university. Such an institution usually had either governmental support, a sizeable endowment or both. In some cases this route was followed by schools that had a university with which they could unite. For others, it meant merging with other medical schools or closing.

Further research is suggested in the area of factors affecting medical education at the Medical College of Virginia and the medical department of the University of Virginia; the impact that the departments of medicine, dentistry and pharmacy had on education in Virginia; the relationship between the Virginia Hospital and UCM; the influence of the departments of dentistry and pharmacy on the department of medicine at UCM; and the effect of political, curricular, and financial pressures on the department of dentistry at UCM.