



New and Developing Medical Schools

Motivating Factors, Major Challenges,
Planning Strategies

Part 3

Michael E. Whitcomb, M.D.

April 2018

Cover: Students at University of Texas at Austin Dell School of Medicine



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PREFACE

This is the third and final monograph of the series on new allopathic medical schools we have commissioned by Mike Whitcomb. This decade-long natural experiment of opening new medical schools without federal funding or mandate began in 2009 when charter classes were enrolled at the University of Central Florida, Florida International University, Texas Tech, El Paso and the Commonwealth Medical College and will likely be completed when the last of the five new schools in planning phase included in this report enter their new classes in 2019 or 2020. In this decade 26 new medical schools will have opened (if all five in planning phase are successful). So this is a propitious moment to reflect on what we have learned and to ask whether our early hopes that they be laboratories for innovation has been fulfilled.

As Dr. Whitcomb points out in the series, the founding stories for the schools are quite different across the group. But there are some common themes in what motivated their sponsors. Most (19 of the 26) are part of or affiliated with a public university, and therefore they carried some mandate to contribute to the physician workforce for the immediate locale or the state. For those that are part of a public or private university system (24 of the 26), a new medical school was seen as a way of enhancing the research profile and prestige of the university. And in many instances it was hoped that a new medical school would serve as an economic engine for

the community in which it is located. It will take more time to tell whether these expectations of the sponsors and founders will be fulfilled.

We at the Macy Foundation have been particularly interested in the educational aspects of the new schools and whether they have taken advantage of a green field to be educational innovators. This harkens back to our 2009 Conference, *Revisiting the Medical School Educational Mission at a Time of Expansion*¹ in which Conference Chair Jordan Cohen wrote “This period of expansion...must not result in ‘more of the same’, failing to take full advantage of the opportunity offered by this ‘natural experiment’ to advance the mission of medical education for the benefit of the public would be tragic”. For this past decade the Macy Foundation has promoted innovations in all health professions education (uniprofessionally and interprofessionally) to better prepare health professionals to meet societal needs and to excel in contemporary practice.

So by that yardstick how have the new schools done in aggregate? I have had the opportunity to visit many of them and to speak with the leadership of most. I would say that as a group they have been successful as innovators, though perhaps not as radical as some of us had hoped for.

They all start with the great advantage of small class size (usually 50 as opposed to 150-200 in most established schools), which lends itself to more personalized education and should make possible closer student-teacher relationships. They also at the outset have education as their primary mission, and therefore education occupies a higher percentage of their faculty and administrative

1 Josiah Macy Jr. Foundation. *Revisiting the Medical School Educational Mission at a Time of Expansion*. Proceedings of a conference chaired by Jordan J. Cohen, MD. October 2008. http://macyfoundation.org/docs/macy_pubs/Macy_MedSchoolMission_proceedings_06-09.pdf

time. They also are likely to have recruited an initial cadre of leaders and faculty who want to be at a new school in order to innovate.

All of these positive factors towards innovation do have countervailing forces, however. All have to be approved by the LCME in multiple steps, and they believe (rightly or wrongly) that they cannot look too different from existing schools if they are to be approved. Most are part of university cultures that are themselves inherently conservative, and they don't want to be considered as having different or lower academic standards. And of course their faculty all come from other established academic institutions, and consciously or unconsciously they may be seeking to replicate those institutions.

Another interesting component of the innovation equation is that several of the new schools came in to existence or evolved as partnerships with established health care delivery systems. This represents a great opportunity for more closely linking the education mission and the health care delivery mission to better serve patients (as we have advocated in another Macy Conference Report²). But it also could work against innovation if the established clinical culture is not open to change and is dominant over the educational mission. My observation is that this negative effect has not been the case (so far), and that these alliances by and large have been beneficial. I think they represent a great opportunity to create new models for clinical education.

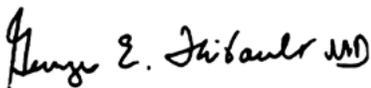
If I were to categorize the average new medical school with the average established medical school on an innovation scale I would rate the new schools higher—more of them are doing more

2 Josiah Macy Jr. Foundation. Transforming Patient Care: Aligning Interprofessional Education with Clinical Practice Redesign. Proceedings of a conference chaired by Malcolm Cox, MD, and Mary Naylor, PhD, RN, FAAN. June 2013. http://macyfoundation.org/docs/macy_pubs/JMF_TransformingPatientCare_Jan2013Conference_fin_Web.pdf

innovations that involve a higher percentage of their students. Most of the innovations I see—small group learning with few lectures, earlier clinical involvement in the community, interprofessional education, more emphasis on humanism and professionalism, longitudinal integrated clerkships, learning about systems of care and the social determinants of health, enhanced use of educational technology, more individualized learner pathways—also exist at some established medical schools. But I believe they are more prevalent and embedded at the new schools. I am heartened, however, by an increasing pace of innovation at the established schools, and it is possible (but not provable) that the decade of opening new schools has had some permissive or stimulatory effects across our educational enterprise.

It is far too soon to know whether the performance or career pathways of the graduates of these new medical schools will be any different than those of the established schools. I am actually more interested in whether we will be able to show if all our medical graduates in the future are better prepared to meet their patients' and communities' needs and are equipped to have fulfilling careers. Perhaps this natural experiment will prove to be one step in a longer journey to get to this goal.

We are deeply indebted to Mike Whitcomb for his careful work in documenting the stories of these diverse new schools. This third part of the series adds to this rich mosaic he has already drawn. There is no one else I can think of who has the background, insights, and clarity to do this documentation. This series will serve an invaluable permanent record of this important moment in the history of medical education.

A handwritten signature in black ink that reads "George E. Thibault M.D." with a stylized flourish at the end.

George E. Thibault, M.D.

President, Josiah Macy Jr. Foundation

INTRODUCTION

In 2001, Florida State University, a major research university located in northern Florida, established a new allopathic medical school on its campus in Tallahassee, the state capital. The school was the first new allopathic medical school established in the country in more than two decades. No new allopathic medical schools had been established during that time, in large part to the widespread belief within both the academic medicine and health policy communities that the country was on the verge of experiencing a major oversupply of physicians. However, in 2006, in response to the results of new workforce studies indicating that the country was actually going to experience a major shortage of physicians, the Association of American Medical Colleges (AAMC) issued a policy statement that called on existing medical schools to increase their enrollment in order to increase physician supply. The AAMC acknowledged in the report that new medical schools would also be needed in order to increase physician supply to the level required to address the physician shortage.

Since the policy statement was issued, 21 new allopathic medical schools that have already enrolled their charter classes have been established in the country. The factors that led to the establishment of the Florida State University College of Medicine in 2001 and the first 15 new schools established following the AAMC policy statement in 2006 were presented in reports published by the Josiah Macy Jr. Foundation in 2009 and 2013. The primary purpose of this report is to

provide information about the six schools established since the 2013 Macy report was published. Each of the schools enrolled their charter classes during the years 2015-2017. As in the previous reports, the information provided deals almost entirely with the challenges faced by the institutions that established the six schools.

Finally, it should be noted that information now available suggests that there are a relatively small number of additional schools that are likely to be established in the coming years. The Liaison Committee on Medical Education (LCME) has recently granted preliminary accreditation to two new schools that are likely to admit their charter classes in 2018, and is likely to consider granting preliminary accreditation to two additional new schools in early 2018. There are at present two additional institutions that are qualified to be considered for preliminary accreditation by the LCME during the coming year.

NEW SCHOOLS

California Northstate University (2015)

California Northstate University is a private, for-profit, health sciences university located in the Sacramento, California metropolitan area. The university, which was founded in 2007 to establish a new college of pharmacy, was originally located in Rancho Cordova, a community of approximately 65,000 people just east of Sacramento. In 2010, the university leadership began to explore the possibility of establishing a new medical school. The university obtained approval to establish a school from the state accrediting body in 2011, and the school was granted preliminary accreditation by the LCME in June 2015. The new medical school is located in Elk Grove, a community of approximately 175,000 people in the Sacramento metropolitan area just south of the city. The College of Pharmacy was moved to the Elk Grove site, and the university established a College of Health Sciences in Rancho Cordova in 2015. The college offers a variety of undergraduate-level health sciences programs, including BS-MD and BS-Pharm D programs.

As noted above, the LCME was granted preliminary accreditation to the College of Medicine in June 2015. When the college was informed that it had received preliminary accreditation, it began almost immediately to notify potential applicants that it planned to enroll a

charter class of 60 students in September 2015, thereby graduating its first class in 2019. The college was successful in attracting students who had graduated from major universities with competitive grade point averages and Medical College Admission Test scores.

The college has developed a standard medical school curriculum for the first two years of the program, and is in the process of establishing somewhat traditional clinical education experiences for the third and fourth years of the program. The college has been successful in establishing clinical affiliation agreements with several hospitals in the Sacramento area, including a number that are part of the Kaiser Permanente North system and Dignity Health. The college plans to ultimately enroll 150 new students each year.

City University of New York (2016)

The City University of New York (CUNY), the largest public university in the United States, has an enrollment exceeding 275,000 students. The university includes eleven senior colleges, seven community colleges, an Honors College, and five graduate and professional schools. The university's colleges and schools are located throughout the city's five boroughs. The university's first college and its current flagship college, the City College of New York (CCNY), was established on a campus in upper Manhattan in the early 1900s.

In 1973, CCNY developed an experimental medical education program that would provide talented youth from various social, racial, and ethnic backgrounds an opportunity to become physicians by granting them a baccalaureate degree in biomedical sciences. In 1977, the New York State Board of Regents granted the university permission to offer the program on a permanent basis. The program was renamed the Sophie Davis School of Biomedical Education in

honor of Sophie Davis, who along with her husband, Leonard Davis, had been supporting the experimental program. The program provided students an accelerated five year curriculum that integrated course work generally provided to pre-med students with the pre-clinical course work of a medical school curriculum. Upon completion of the five year program the students were granted a BS degree and then enrolled in one of five accredited medical schools that had agreed to provide students the last two years of the medical school curriculum. Upon completion of the two year clinical curriculum, the students were granted an MD degree by the medical school that had provided their clinical education. The program, which was in effect for almost 40 years, was widely recognized for producing graduates from underrepresented minority communities, and those with a special interest in serving socially disadvantaged individuals.

During the past decade, it became apparent to CCNY that it was going to be increasingly difficult to continue the program since their medical school partners were having a difficult time maintaining the number of clinical clerkship positions required to provide clinical education experiences for their own students. As a result, CUNY recognized that it would not be able to maintain the program unless it became a component of an accredited medical school that had clinical affiliation agreements in place that would provide an adequate number of clinical clerkship experiences for its students. Given that, the school entered into an agreement with the St. Barnabas Health System in the Bronx to provide the clinical opportunities the school needed to provide its students clinical education experiences. Accordingly, in 2013 the Board of Trustees granted the school permission to seek to become a fully accredited medical school, and in 2015 the school was granted preliminary accreditation by the LCME. Accordingly, the school began to recruit students and enrolled a charter class of 70 students in the fall of 2016. The school is identified as the CUNY School of Medicine. The Sophie Davis program

continues to be recognized as being integrated into the medical school curriculum.

University of Texas (2016)

The University of Texas (UT) is one of the nation's largest systems of higher education. The system was founded in the late 19th century when the University of Texas was founded in Austin in 1887 and a medical school—the University of Texas Medical Branch—was established in Galveston in 1900. In the years that followed, the system established additional institutions throughout the state. Until a few years ago, the system was composed of seven universities and six academic health science centers. None of the comprehensive universities in the system had its own medical school. The four medical schools in the system were based in academic health science centers located in Houston, Dallas, San Antonio, and Galveston. But in 2015, two new medical schools were established in comprehensive universities in the UT System: one in the Rio Grande Valley in Southern Texas and one in Austin, the state capital.

University of Texas Rio Grande Valley School of Medicine

The Rio Grande Valley is located in the southeastern area of the state, with its southern border being the Rio Grande River. The Valley is approximately the size of the state of Connecticut, and has a population of approximately 1.2 million people. The Valley includes a number of small cities, and until recently several relatively small public universities that were part of the UT System. For decades, community leaders in the lower Rio Grande Valley expressed their concerns about the lack of an academic health sciences center with a medical school

located in the region. Throughout that period, they had attempted to get the UT System to establish a health sciences center in the region. Over time, the leaders of the UT System, and state government officials, recognized the importance of doing so.

In 1998, the Texas Legislature authorized the UT System to establish and operate a Regional Academic Health Center in the Rio Grande Valley. Later that year the UT System established a Regional Academic Health Center in Harlingen, Texas, and designated the UT Health Science Center at San Antonio to oversee and operate the site. The center, which became operational in 2002, was primarily responsible for providing clinical education experiences for third- and fourth-year medical students from the University of Texas at San Antonio.

In 2009, the Texas Legislature committed to the establishment of a new medical school in the Rio Grande Valley by 2015. Although there were several independent UT System universities in the region (i.e., University of Texas at Brownsville and University of Texas-Pan American, located in Edinburg) neither had the resources required to support the development of a new medical school. Because of the nature of the two universities the UT System could not use certain funding sources to cover the costs of establishing the school. However, in 2013, the Texas Legislature, acting on a proposal from the UT System, approved closing both universities and consolidating them into a single new university: the University of Texas Rio Grande Valley. Because of the way the new university was established, the UT System was able to use certain financial resources to support the development of a new medical school in the university.

The main campus of the new medical school, the University of Texas Rio Grande Valley School of Medicine, was located on the university's campus in Edinburg, a city with a population of approximately 80,000. Two new buildings were constructed on the site to house the medical

school, and the first two years of the medical school's curriculum are provided at that site. The Regional Academic Health Science Center of the University of Texas at San Antonio, which had been established in Harlingen, was incorporated into the medical school as its clinical campus.

The medical school's major clinical affiliates are located in Harlingen, and the third and fourth years of the curriculum are provided there. Harlingen, a city of approximately 65,000, is approximately 40 miles from Edinburg. The medical school enrolled 50 students in 2016.

University of Texas at Austin Dell Medical School

In 2008, the University of Texas Medical Branch (UTMB) in Galveston, which had for many years rotated students to Austin for clinical education experiences, was forced to discontinue providing administrative oversight of the experiences because of damage done to the Health Science Center in Galveston by Hurricane Ike. The University of Texas Southwestern, located in Dallas, which had already begun to explore the possibility of assuming control of medical education programs offered in Austin, agreed to assume responsibility for overseeing the UTMB students' clinical education experiences in Austin. Shortly thereafter UT Southwestern began to propose the establishment of a more robust branch campus in Austin. Indeed, there were some discussions at that time about establishing a new medical school in Austin under the control of UT Southwestern. At the same time, university officials and community leaders in Austin had begun discussions about the value of establishing a new medical school in Austin.

During the next few years, there continued to be discussions among university officials, community leaders, and state government officials

about the possibility of establishing a new medical school in Austin. As the discussions continued, it became apparent that establishing the school as a unit of the University of Texas at Austin had the greatest support. However, because none of the existing medical schools in the UT System were administratively situated within one of the UT System universities, this approach was opposed by several individuals.

However, local support for the development of a new medical school as a part of the University of Texas at Austin grew significantly over time. In addition to strong support from certain legislators and local civic officials, the major health system in the region, Seton Healthcare Family, also favored locating the school on the University of Texas at Austin campus. It also became apparent that the local population and a major private foundation were willing to support the development of the Austin school. In 2012, the UT System Board of Regents approved the location of the school in Austin as a component of the University of Texas at Austin. The following year, the Dell Foundation made a \$50 million gift to the university in support of the new school (University of Texas at Austin Dell School of Medicine). Several new buildings were constructed on the campus to provide space for various medical school program activities. In addition, Seton Healthcare constructed a new hospital on the campus near the new medical school buildings. The school enrolled 50 students in 2016.

University of Nevada, Las Vegas (2017)

During the 1960s and 1970s, a number of new medical schools were established in the United States in response to concerns that the country had a shortage of physicians that could only be addressed by increasing the number of students enrolled in the country's medical schools. As a result, the federal government, along with many state governments, established programs to assist universities in developing new medical schools. Nevada was one of the states that did not have

a medical school when the government policies went into effect. In response, the state decided in the early 1960s to establish a medical education program in the state. At that time, the University of Nevada was located in Reno, a small community in the northwest region of the state, and Nevada Southern University, a regional division of the University of Nevada, was located in Las Vegas. Nevada Southern became a separate university in 1968, and was renamed the University of Nevada, Las Vegas in 1969.

Because the University of Nevada in Reno was the main university in the state, the decision was made to establish the medical education program in Reno. The School of Medical Sciences was established as a two-year medical school program in 1969 and began to enroll students in 1971. In order to receive an MD degree, students who completed the two-year program had to transfer to a four-year medical school somewhere in the country to obtain their clinical education experiences. In the early 1970s, the LCME discontinued accrediting two-year programs. Thus, the two-year programs that existed across the country began to convert to full four-year medical schools. The University of Nevada in Reno converted its program to an MD degree granting program in 1978.

Although the University of Nevada School of Medicine has been located in Reno since then, students enrolled in the school have been assigned to affiliated clinical sites in Las Vegas for many of the clinical education experiences they are required to complete during the third and fourth years of medical school. The experiences were provided in Las Vegas since they could not be provided in Reno because of the limited size of the clinical enterprise available in Reno. Because Reno is approximately 400 miles from Las Vegas, the school had difficulty managing the clinical education experiences provided in Las Vegas, and thus had to limit its enrollment. The challenge of managing the clinical education enterprise in Las Vegas also limited the availability of

graduate medical education programs in the state, resulting in most of the school's graduates leaving the state for specialty training.

Because of the complex challenges involved in expanding medical education in the state, there have been various discussions over the years about the value of moving the medical school from Reno to Las Vegas, while having it retain its relationship to the University of Nevada in Reno. At the same time, there was a growing interest in establishing a new medical school in Las Vegas. As noted previously, the University of Nevada, Las Vegas, was established as a separate university in 1969. Since then, the university's enrollment has grown substantially, and the university has expanded the number and size of its educational programs, as well as its research enterprise.

In addition to the growth in the university, the Las Vegas metropolitan area has grown to a considerable degree, both in the size of its population and in the size and scope of its economic enterprise. The size of the Las Vegas Valley population is approximately two million persons, making it the largest metropolitan area in the country without an allopathic medical school. In addition, in 1999 local politicians designated an area in northern Las Vegas as the Las Vegas Medical District to support the growth and development of health care related enterprises in the city. The University Medical Center, a Clark County hospital, was located near the site. Thus by 2010, there was a growing interest in developing a new medical school in Las Vegas as a component of the University of Nevada, Las Vegas. In 2011, the Economic Development Board, acting on recommendations from a consultant group, supported the development of a new medical school in Las Vegas.

This decision, which was opposed by the University of Nevada, Reno, prompted the university to begin discussions about relocating some elements of the medical school's operation to Las Vegas. The

university submitted a proposal for creating a campus for the medical school in Las Vegas in collaboration with the University of Nevada, Las Vegas, but the proposal was met with vigorous opposition from civic leaders and government officials in Las Vegas.

In 2013, university regents proposed the development of a new medical school in Las Vegas as a component of the University of Nevada, Las Vegas, and the concept was approved by the Nevada System of Higher Education. In 2014, university regents approved the development of the school in Las Vegas. That same year, the state legislature approved the action and appropriated planning funds for a two year period. The legislature also provided support to the University of Nevada in Reno, to facilitate expanding the scope of its operation in Reno and other sites within the state to that of a full four-year school.

In 2016, the Clark County Commission transferred nine acres of the Medical District to the University of Nevada, Las Vegas, for the development of the medical school. The university has plans to build a new medical school facility on the site. Until then, the medical school will be housed in newly renovated space in the university's dental school that is located on the Medical District site. The medical school was granted preliminary accreditation in the fall of 2016 and enrolled a charter class of 50 students in 2017.

Washington State University (2017)

Washington State University is a major state university. The university's main campus is located in Pullman, Washington, a community of approximately 32,000 persons in the southeastern region of the state near the Washington-Idaho border. The university began to participate in medical education in 1971 when it became a participating member of the WAMI program established by the University of Washington School of Medicine in Seattle.

The University of Washington School of Medicine developed the WAMI program as a means of providing an opportunity for neighboring states that did not have a medical school. The program's name is an acronym of the participating states: Washington, Alaska, Montana, and Idaho. The WAMI program enabled those states to enroll their residents in the University of Washington School of Medicine with the goal of increasing the number of physicians who would choose to practice in their home state after completing their training. The students completed the first year of the medical school curriculum at a university in their state of residence, and then moved to Seattle to complete the second year of the curriculum at the University of Washington School of Medicine. Students were then able to elect clinical rotations required in the third and fourth years of the curriculum at sites in their home state, or at sites in any of the participating states. Given its location in eastern Washington near the Idaho border, Washington State University also participated in the program by offering the first-year curriculum on its campus in Pullman.

Over the years, the WAMI program underwent several changes. To begin, the University of Alaska Fairbanks, where the first-year curriculum was offered in Alaska, stopped participating in the program in the mid-1980s because of financial problems. The Alaska program was re-established at the University of Alaska Anchorage in 1989.

During that same period, the number of students enrolled in the first-year curriculum programs in Montana and in Idaho decreased for several years because of financial concerns. There was some concern at that time that each of the states might follow the Alaska experience and discontinue participating in the program. With the improvement in the economic situation in the participating states toward the end of the 20th century, the WAMI program returned to a stable condition and began to increase the scope of its activities. Indeed, the University of Wyoming joined the program in 1996 (expanding the name to WWAMI) since the state of Wyoming was no longer satisfied with the relationship it had with another out-of-state medical school to enroll state residents.

During the same period, Washington State University began to expand its presence in the state. Of particular importance, in 1989 the university began to develop a campus in Spokane, a city of approximately 200,000 persons located just 30 miles from the Idaho border in the central region of the state. The campus was located on a 48 acre site bordering the city's downtown region. Over time, 18 buildings were developed on the campus, and various university academic programs established a presence on the campus. Of particular note, in 2010 the university designated the campus as the site of the Washington State University Health Sciences Complex, which included a number of health professions programs. At the same time, the university began to explore the possibility of establishing a medical school on the site in Spokane.

That decision created tension between the University of Washington and Washington State University. That issue confronting the University of Washington was the possibility not only that the establishment of a second state university medical school might have an adverse financial impact on the university, but also that the presence of a medical school in Spokane might limit the number of students that the University of Washington medical school would be able to enroll in the

WWAMI program, since the program had relocated its presence to the Spokane Health Sciences Complex. Nevertheless, in September 2014, the Board of Regents approved the development of a Washington State University medical school in Spokane, and one month later the University of Washington and Washington State University severed the WWAMI relationship.

In 2016, the Washington State University medical school (Elson S. Floyd College of Medicine) was granted preliminary accreditation by the LCME, and the school enrolled a charter class of 60 students in 2017. The students will complete most of the first two years of the medical school curriculum on the downtown Spokane campus. The students will complete the third and fourth years of the curriculum—the clinical curriculum—in Spokane or at one of the university’s regional campuses located in Everett, Vancouver, or Tri-Cities. Everett, a city of approximately 110,000 persons, is located 25 miles north of Seattle; Vancouver, a city of approximately 170,000 persons, is located near the state’s southern border close to Portland, Oregon; and Tri-Cities is an area composed of three small cities with a total population of approximately 215,000 on the southeastern border with Idaho.

Comments

The case summaries presented above provide information about the major challenges that each of the six sponsoring institutions that established one of the new medical schools that enrolled its charter class during the past three years (2015–2017) had to address in order to establish the school. Certain key elements of the process involved in the development of the schools deserve to be highlighted.

First, California Northstate University School of Medicine is the first allopathic medical school established in the United States as a for-profit medical school in more than a century. Second, the CUNY

School of Medicine was established by converting a university based medical education program that provided only the first two years of a medical school curriculum to a full four year program, thus allowing the university to grant the MD degree. Third, in contrast to several of the new schools that were described in the previous Macy Reports, three of the schools were established by state universities (University of Texas; University of Nevada, Las Vegas; and Washington State University) that received very active support from community leaders and government officials, who shared an interest in seeing a new medical school established in a particular area within their state. It is important to note that this occurred despite some opposition to the development of each of the new schools from the leadership of a public medical school that already existed within the state. And finally, it is truly remarkable that one of the schools was established by closing two public universities in the region where the school was to be established and then merging them into a single new university (University of Texas Rio Grande Valley).

SCHOOLS IN PLANNING PHASE

The accreditation process institutions must go through to establish a new medical school and enroll students makes it possible to identify institutions that are actively involved in the planning of a new medical school. Although eight institutions have indicated in recent years their intent to start a new school, it is now clear that some of the institutions will not be successful in doing so. Indeed, several of the institutions have already indicated that they are no longer planning to do so. The schools being developed by four of the institutions (University of Illinois at Urbana-Champaign, Nova Southeastern University, Seton Hall-Hackensack Meridian, and California University of Science and Medicine) have recently been granted preliminary accreditation by the LCME, and plan to enroll their charter classes in 2018. Kaiser Permanente anticipates obtaining preliminary accreditation during the coming year so that it can enroll its charter class in 2019. Information about each of the sponsoring institutions is provided below.

University of Illinois at Urbana-Champaign

The University of Illinois at Urbana-Champaign has served for decades as a branch campus of the University of Illinois College of Medicine, Chicago. In recent years, 125 students have been

admitted to the campus each year. One hundred of the students have enrolled in a traditional four-year MD program. After completing the first year of the program on the Urbana-Champaign campus, those students transferred to a branch campus in either Peoria or Rockford for the last three years of the program. Twenty-five of the students remained on the Urbana-Champaign campus and enrolled in a Medical Scholars Program that leads to a combined degree (MD with JD, MBA, or PhD). Those students remain on the campus to complete the program.

In 2014, a faculty committee approved a proposal put forth by the Chancellor to establish a separate college of medicine on the Urbana-Champaign campus. The proposal was then approved by the University Board of Trustees in early 2015. The new college of medicine will be somewhat unique in that it will have an engineering focus so that when the students graduate they will possess skills in engineering and technology that could be applied to the development of innovations in medical practice. The college is to be developed as a partnership between the University of Illinois at Urbana-Champaign and the Carle Health System, a non-profit corporation in Illinois consisting of an integrated system of hospitals, a large physician group, and a health plan.

The original plan for the development of the new medical college retained the existing relationship with the University of Illinois College of Medicine, Chicago, so that approximately 125 of the college's students would enroll on the Urbana-Champaign campus for the first year of their education. The leadership of the Urbana-Champaign campus ultimately decided to discontinue that program. Accordingly, the Peoria and Rockford programs will now be required to offer the first year of the curriculum for students who will be enrolled at those sites for all four years of the educational program. A new dean has been recruited for the Urbana-Champaign Carle Illinois College of

Medicine, and the college leadership hopes to be able to enroll a charter class of 35 students in 2018.

Nova Southeastern University

The main campus of Nova Southeastern University is located in Fort Lauderdale, Florida. The university was founded in 1964 as the Nova University of Advanced Technology, a graduate institution focused on physical and social sciences. The university began to expand the programs it offered, and over time it established several regional campuses where courses were offered. In 1994, the university merged with Southeastern University of Health Sciences to form Nova Southeastern University. Southeastern University was originally established in 1981 as the Southeastern College of Osteopathic Medicine. Over time the university added Colleges of Pharmacy, Optometry, Allied Health, Medical Sciences, and Dental Medicine. Nova Southeastern is classified as a research university with campuses in cities in southern and central Florida, and in Puerto Rico. In addition, the university provides oversight of 20 different health care centers in Miami-Dade and Broward Counties.

HCA East Florida, an affiliate of Hospital Corporation of America, is the largest healthcare system in eastern Florida. One of the health system's hospitals is located on the university's campus. The hospital will be replaced by a newer hospital in the next few years. HCA East Florida and Nova Southeastern University have agreed to cooperate in the establishment of a new allopathic medical school on the university's campus. Thus, Nova Southeastern will be one of the universities having both an allopathic and an osteopathic medical school. Medical students enrolled in the medical school will be assigned clinical education experiences in HCA East Florida facilities. The university hopes to enroll a charter class in 2018. A founding dean is leading the planning process.

Seton Hall-Hackensack Meridian

Seton Hall University is a private, Catholic university located in South Orange, New Jersey, and Hackensack Meridian Health is a large health system based in Hackensack, New Jersey. Both Seton Hall and Hackensack had been exploring for several years the potential of becoming more involved in medical education. Indeed, each of the partnering institutions has a history of prior involvement in developing undergraduate medical education activities.

In 1954, the Roman Catholic Archdiocese of Newark established the Seton Hall College of Medicine and Dentistry. Despite the college being named Seton Hall, the institution was established as a legal entity separate from the university. The first class of students was admitted in 1956. However, in the early 1960s the Archdiocese of Newark realized it could not continue to support the institution financially, and the governor of the state agreed to examine the possibility of the state assuming responsibility for the school. The state assumed control of the school in 1965 and renamed the school the New Jersey College of Medicine and Dentistry.

In 2007, Touro University proposed to establish a medical school in Hackensack, New Jersey. The school was to be affiliated with the Hackensack University Medical Center (HUMC). The medical school was to be located on the campus of a local hospital that had closed in 2007 because of bankruptcy. The original plan for establishing the medical school called for the property to be purchased by HUMC in conjunction with Touro. However, the purchase of the property did not close in time for the institutions to meet the requirements needed to gain accreditation status when expected. Accordingly, Touro backed out of the arrangement and the proposed medical school was never opened.

In 2014, Seton Hall University and HUMC agreed to begin to work together to establish a new, private medical school in northern New Jersey. The school, which is to be named the Seton Hall-Hackensack Meridian School of Medicine, is to be located on the campus of the former Hoffman-La Roche biomedical facility in Nutley, New Jersey. A founding dean has been leading the planning effort for several years.

California University of Science and Medicine

The California University of Science and Medicine is a new, private university located in San Bernardino County. The university was established by two physicians who have been leaders and entrepreneurs in the community to create a medical school within the Inland Empire region of Southern California. The medical school will be located in Colton, a city of approximately 50,000 persons sixty miles east of Los Angeles. The leadership has entered into a partnership with Arrowhead Regional Medical Center in Colton, and has purchased 29 acres of land adjacent to the medical center to serve as the location of the medical school. A 40,000 square foot building has been purchased to house the medical school. The financial support needed to establish the school was provided by the original founding partners and a \$40 million gift from the Prime Healthcare Foundation. A dean is on board to lead the planning process.

Kaiser Permanente

Kaiser Permanente (KP) is the largest managed care organization in the United States. KP is composed of three distinct but interdependent groups: the Kaiser Foundation Health Plan, Kaiser Foundation Hospitals, and the Permanente Medical Groups. KP operates in eight states and the District of Columbia. Each KP entity

has its own management and governance structure, but they are all interdependent and cooperative. KP is based in Oakland, California.

Several years ago the KP National Board approved a proposal for KP to establish a new medical school that would be designed to educate medical students about the approach to medical care provided by the KP health care providers. KP has been involved in medical education for decades. It sponsors 35 graduate medical education programs, and provides opportunities for more than 1,000 residents enrolled in other programs to participate in KP clinical activities. The medical school will be based in a new medical education building to be built on property owned by KP in Pasadena, California. A dean has been hired to lead the planning effort.

DISCUSSION

The Macy Reports on New and Developing Medical schools published in 2009 and 2013 provided information about the 15 new allopathic medical schools that were established after the Association of American Medical Colleges (AAMC) released its 2006 Position Statement on the Physician Workforce. The current report provides information about six additional schools established after 2013, which have already enrolled their charter classes. The report also provides information about five more schools under development that seem likely to enroll their charter classes during the next two years. Four of the schools have already been granted preliminary accreditation by the LCME and are likely to enroll their charter classes in 2018. As a result, a total of 26 new schools have been established since the 2006 AAMC Position Statement, and the number is likely to increase as the two schools now holding candidate status are granted preliminary accreditation by the LCME.

The 2009 and 2013 reports primarily provided information about how each of the new schools described in those reports met the challenges to obtain preliminary accreditation from the LCME so that they could begin to enroll students. These critical challenges included ensuring that the school would have the financial resources needed to provide the educational program, ensuring that the school would have the facility space needed to support the educational program, and demonstrating that the school had established the clinical affiliations

necessary to provide clinical education experiences for their students. This current report provides similar information about the six new schools.

Meeting Key Preliminary Accreditation Requirements

This section of the report provides a general overview of the various strategies that the 21 new schools that have enrolled students employed to meet the key challenges that developing schools must address in order to obtain preliminary accreditation. Information about the specific approach used by each school may be found in the case studies of the individual schools in each of the Macy reports.

Financial Status

State universities played a major role in the planning of 17 of the 21 new schools that have already enrolled students. Of the remaining four schools, comprehensive private universities played a major role in establishing two. Of the two remaining schools, a relatively new for-profit health sciences university established one and a group of community leaders established a freestanding, independent medical school. In both those cases, those involved in the development of the school obtained private funding from various sources to support the school.

It is not surprising that state universities played a major role in the establishment of the majority of these new schools since they are largely funded by public dollars. Given that, university officials and other supporters of the new medical schools assumed that state and local government officials would have a shared interest in seeing the

establishment of a new medical school in their university and would, therefore, convince the state legislature to allocate funds to support the development of the school. In fact, 10 of the new medical schools were funded in this way. However, in some states where there was an interest in developing a new medical school in a state university, the legislature was unable, or unwilling, to provide a sufficient increase in the state appropriation to the university to cover the cost of developing and maintaining a new medical school. Under those circumstances, the universities involved either had to discontinue planning for a new school, or had to develop an alternate approach for funding the school. In two of those cases, state universities reallocated funds internally to cover the costs of establishing and maintaining a new medical school.

One of the approaches used by state universities that were unable to reallocate existing funds to cover the full cost of establishing a new medical school was to partner with a major health system that was interested in increasing its standing as a major academic medical center by having a close relationship with a medical school. Indeed, five state universities interested in developing a medical school successfully created this kind of a partnership with a major health system. In each case, the name of the health system was included in the official name of the new medical school. It is important to note that two of the universities that entered into a partnership with a major health system to establish a new medical school were unable to gain full approval to establish the school as an integral part of the university. In each case, the medical school was established as a 501(c)(3) private entity, with certain support from the partnering university. Finally, it is important to note that these partnerships were not isolated to public universities; one of the private universities that established a new medical school did so by partnering with a major health system that was also interested in establishing a new medical school.

Space Needs

As noted above, providing access to a facility that could meet the administrative and academic space needs of a new medical school was one of the major challenges that universities had to meet in developing a new medical school. In general, a university interested in establishing a new medical school fulfilled the school's space needs on its campus either by obtaining funding to build a new medical school building on the campus, or by locating the school in space available in an existing building. Funding to support these approaches was available from a variety of sources. It is interesting to note, however, that in some cases there was inadequate space on the university campus to house the medical school itself, or for other facilities that would be needed to support the development of a more comprehensive medical center on the campus. In those cases, the university had to consider other sites for locating the medical school, either within the community where the university was located, or at a distant site. Ten of the 21 new medical schools were established on the campus of the founding university, and two were established at a site within a short distance from the campus that was available for development.

It is noteworthy that six of the 21 new schools were established in communities that are a major distance from the campus of the parent university. In three of those cases, the new medical school had served as a major branch campus of an existing university based medical school before being converted to the university's second, fully accredited medical school. Although the new medical school was located many miles from the main university campus, there was no reason to relocate the school to the community where the main campus existed since there were substantial resources available for the new medical school in its current location. The other three schools were originally established at a location some distance from the

parent university. In two of the cases, state officials had an interest in establishing a medical school in a region of the state that did not already have a medical school presence. One of the new schools that was established as a 501(c)(3) entity through a cooperative effort between a major university and a health system was located on the campus of the health system, approximately 45 miles from the university campus. The medical college was located at that site because the university had been unable to get approval from state officials to locate the school on the university campus. The three remaining schools were not established by major universities, and therefore could not be located on a major university campus.

Clinical Education

One of the major challenges that the new medical schools faced was establishing relationships with health care providers that would provide a quality medical education experience for their students. A critically important element for accomplishing that was being able to enter affiliation agreements with hospitals and other health care providers, either locally or in other somewhat distant communities, which would allow the school to provide the clinical education experiences that are needed for a quality clinical education. Because clinical care environments may vary greatly in the different communities where a new medical school may be established, there can be variability in the affiliation arrangements available to the school, as well as in the clinical education experiences provided the students at the affiliated sites. Thus, from an educational program perspective, designing and implementing the school's clinical education curriculum is a major challenge.

As noted previously, six of the new schools were established because of a special arrangement between the founding university and a major

health system, which made the health system the school's primary clinical affiliate. In each case, the health systems' major hospitals already had substantial medical education programs in place that provided opportunities for medical students from certain schools to participate in clinical education experiences in the hospitals. In addition, the health systems sponsored graduate medical education programs. As a result, a partnership with a major health system allowed the new school to offer its students access to substantial clinical education experiences at various hospitals.

The diversity of the clinical affiliations entered into by the other new schools gives some insight into the challenges they faced in crafting a quality clinical education experience for their students. For example, seven of the new schools entered into affiliation agreements with different hospitals not only in the community where the school was located, but also in communities some distance from the medical school as well. Although the nature of the relationships between the medical schools and the affiliated hospitals varied a great deal, those agreements allowed the schools to provide their students opportunities for clinical rotations. However, since many of the community hospitals had limited experience in supporting clinical education experiences for medical students, the medical schools had to enter affiliation agreements with several different hospitals to ensure that they would be able to provide the necessary educational experiences for their students. This situation created challenges for the schools as they increased their class size over time.

It is also important to note that four of the new schools established regional clinical campuses in somewhat distant communities where students would spend most of their time during the third and fourth years of their medical education experience. In two cases, the school established a group of four regional campuses. The other two schools established a single regional campus that was located approximately

40 miles from the medical school. Hospitals and physician practices in the communities where the regional campuses were located provided the clinical clerkship experiences required by the medical schools. It has proved to be particularly challenging to organize and manage the clerkships in ambulatory care settings in those communities.

Finally, it should be noted that the nature of the clinical education experiences provided by the various medical schools varied a great deal, not only because of the nature of the educational environment that existed in different kinds of hospitals, but also because of differences in the approach to clinical education adopted by various schools. While the clerkships provided by many of the schools were largely traditional inpatient-based experiences, many of the schools provided more ambulatory-based experiences, and a number provided various longitudinal, integrated clerkship experiences.

Impact of New Schools on Communities

It is well-recognized that medical schools have a major impact on the communities in which they are located. In that regard, there are reasons to believe that the new medical schools have already begun to impact their communities in favorable ways. All but one of the 15 schools presented in the 2013 Report have now graduated their charter class, and the remaining school will do so at the end of 2017-2018 academic year. Thus, each of those 15 schools has now been in operation for between three and eight years. Given the length of time, it is possible to comment on the favorable impact that they are likely having within the communities and states in which they are located.

Clinical Care Services

In considering the value that a new medical school adds to a community, there are reasons to believe that the clinical affiliation agreements between a new medical school and local health care providers in the community have a positive impact on the scope of the clinical care that is available in the community, primarily in the hospitals and ambulatory care facilities that serve as clinical affiliates of the medical school. The positive impact occurs not only in the community where the school is located, but also in other communities where the school has established regional campuses.

It is also important to note that the results of some studies indicate that where medical students attend medical school does have, to some degree, an impact on where some of those students will eventually enter practice. This relates not only to the location of the medical school, but also to the location of the clinical campuses where the students may spend the third and fourth years of their medical school experience. Given that, it appears likely that the new medical schools will contribute to increasing the number of physicians practicing in certain local communities, thus increasing the availability of clinical care for individuals living in those communities.

Economic Impact

In addition to the favorable impact that the new schools are likely having on the scope of clinical care available in the communities they serve, the schools are also likely having a favorable economic impact in both the local communities and their home states. Although it is not yet possible to quantify precisely that economic impact, there can be little doubt, based on the projections provided by various analysts, that a very favorable economic impact within the communities and states

is occurring. The degree to which the local economies are positively affected depends on a variety of factors, including the number of faculty and staff recruited to support the various educational and research programs conducted by the schools, and the utilization of the facilities required to house the schools' education programs, and other health science related education programs.

Among the 15 new schools described in the 2013 Macy Report, there are several dramatic examples that illustrate the extraordinary impact that the development of a new medical school can have on the development of other health-related programs within the local community. The decision by the University of Central Florida (UCF) leadership to locate its new medical school in a suburban area of Orlando, rather than on the university campus, is a prime example. By choosing to locate the school in Lake Nona, an area that had great potential for development, and with the support of state and local government officials, the area has expanded in ways that have led to the development of what is now known as Medicine City. In addition to the new medical school, Lake Nona Medicine City now includes the College of Nursing, the UCF School of Biomedical Sciences, branch laboratories of several private research institutes, a University of Florida research program, a new Veterans Administration Hospital, and a new Nemours Children's Hospital.

Another major example of the impact that a new medical school can have on a community is the decision made by Texas Tech University officials to establish a new medical school in El Paso, Texas. The development of the school, the second medical school in the Texas Tech University System, ultimately led to the development in El Paso of the second Texas Tech University Health Science Center. The site where the medical school was originally established in the city now includes a new nursing school and the local county hospital; a new research building is also under construction. The decision to establish a new medical school in El Paso contributed to the decision to establish the first pediatric

hospital in the city, and another new hospital and ambulatory care facility in north El Paso that will serve as clinical teaching sites for the medical school.

It is important to note that neither of the two new medical schools described above were located on the main campus of the school's parent university. This contributed greatly to the development that occurred after the school was established because there was substantial space available to accommodate the construction of other new buildings. Given that, it is important to recognize that almost half of the new medical schools were not located on the main campus of their sponsoring university. In several cases, major development on the site where the school was located is already contributing in important ways to the local community.

Physician Supply

There is no question that the new schools that have already graduated their charter class have contributed in important ways to the increase in physician supply in the country. More than 1,500 students have already graduated from the schools, and the number of graduates will increase over time as the current group of new schools increase their enrollment, and additional new schools are established. Indeed, current data indicate that the new schools are responsible for approximately 40% of the increase in medical school graduates that has occurred since the AAMC issued its 2006 policy statement on the need for medical schools to increase graduates in order to increase physician supply. It is clear, therefore, that the development of the new schools is contributing in a significant way to the national effort to increase physician supply.

Given that, it is worth noting that since all but one of the new schools enrolled their charter class after 2007, it is generally believed that

the sponsoring universities' purpose for establishing the schools was to contribute to the effort to increase the supply of physicians in the country in response to the 2006 AAMC policy statement. To clarify, however, it is important to recognize that some of the institutions had already been exploring how they might establish a new school well before the release of the AAMC report. The establishment of the Florida State University medical school in 2001 is a clear example of this, and it is not the only example. Both Florida International University and Texas Tech University began planning for the development new schools during the 1990s. Hofstra University; the University of Central Florida; the University of California, Riverside; and Oakland University had initiated internal discussions about starting a new medical school prior to 2006. In addition, other universities, such as Arizona State University, attempted to start a new medical school in the 1990s but were unable to do so. It is clear, therefore, that while the release of the AAMC report was an important factor in supporting those universities interested in starting a new medical school that were seeking state approval to do so, it was not the primary factor that motivated several of the universities to consider it in the first place. In reality, institutional leaders were primarily motivated by their sense of the value that a new medical school would bring to their university's academic enterprise.

CONCLUSION

The 21 new medical schools that have enrolled students since the AAMC 2006 Report, as well as the five potential schools now likely to enroll students during the next two years, almost certainly represent the overwhelming majority of the new allopathic medical schools that will be established during the current period of expansion. Based on the actions taken in establishing the current group of schools, it seems clear that there have been changes over time in the dynamics that led to the development of the new schools. This reflects, to a great extent, a growing awareness on the part of community leaders and state government officials that a medical school contributes in important ways to the community in which it is located, as well as to the state in which it is located. The school's impact may be felt on the availability of a range of health care services within the community, as well as on the economic development of the region.

In that regard, it is interesting to note how the location of the new schools might affect the impact that the schools will have within the country. For example, four of the new schools were established in major cities with large metropolitan populations, which did not already have a medical school presence: Phoenix, Arizona; Las Vegas, Nevada; Orlando, Florida; and Austin, Texas. In addition, five of the schools were established in a relatively small city in a region of the state where there was no medical school—Spokane, Washington; Camden, New

Jersey; Edinburg, Texas; Scranton, Pennsylvania; and Mt Pleasant, Michigan—and thus no easy access to certain health care services.

Given the complex process involved in establishing a new medical school, it is not surprising that some of the new schools would face important challenges after they enrolled students and began to implement their educational programs. While almost all the schools experienced some unexpected challenges as they proceeded, they were able for the most part to respond and address the challenges in an effective manner. It is important to note, however, that one of the schools has gone through a major administrative change in its organizational structure, and two more of the schools are now in the process of undergoing a major change in their organizational structures.

The Texas Tech medical school in El Paso was established as the second medical school in the Texas Tech University Health Science Center. However, the creation of the new medical school in El Paso led to several changes in the hospitals in the area and the formation of additional health sciences colleges, particularly a new nursing school. As a result, the Texas Tech System leadership decided to establish a separate health sciences center in El Paso with the medical school as the key academic unit within the new center.

As noted above, The Commonwealth Medical College (TCMC) was established as a distinct 501(c)(3) corporate entity in Scranton, Pennsylvania. The college was not embedded within a university, nor did it have a major affiliation with a hospital or health system. As a result, the institution did not have a readily available source of external funding that could be relied on to support its financial needs long term. Several years after enrolling its charter class, it became clear that the college had to address its long-term financial situation within a relatively short period of time. After surveying various options, the

college agreed to merge into the Geisinger Health System, a major health system in northeastern Pennsylvania. The college is now named the Geisinger Commonwealth School of Medicine.

The Virginia Tech Carilion School of Medicine was also established as a 501(c)(3) corporate entity. However, the two parties agreed to the organizational arrangement with an understanding that the college would ultimately become a fully integrated college within Virginia Tech University, pending state support to do so. Having now received state approval, the two parties are in the process of converting the medical school from a private 501(c)(3) corporate entity to a college of medicine that is fully incorporated into Virginia Tech University. The institutions expect to have the arrangement fully in place within the next two years.

Finally, the experience with the new schools reveals one of the challenging issues that all medical schools are now facing—that is, the need to reform certain aspects of the educational program being provided to medical students. In 2009, the Josiah Macy Jr. Foundation sponsored a working conference focused on the need to reform aspects of medical education, and the role that new medical schools could play in that effort. The conference *Revisiting the Medical School Educational Mission at a Time of Expansion* recognized the challenges involved in making curriculum changes in existing schools, and hoped that the new schools would have more of an opportunity to incorporate needed curriculum reforms in their educational program. While some of the schools have implemented some significant innovations, the majority have largely limited major curriculum innovations to the first two years of the educational program. In many cases, the changes adopted largely reflect changes which have been adopted by some existing medical schools.

In that regard, it is important to note the major changes underway in the clinical education experiences being provided to students. It is still

the case that the clinical clerkships are largely inpatient experiences, but a growing number of schools, including some of the new schools, have refocused their clinical education experiences on longitudinal ambulatory care experiences. This change reflects the desire not only to provide students with more relevant clinical experiences, but also to respond to the challenges schools face in providing inpatient experiences that are appropriate for medical students.



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NEW AND DEVELOPING MEDICAL SCHOOLS, 2018

Medical School	Parent Institution	Year Approved to Establish SOM	Location	Previous Branch Campus Experience
California Northstate University College of Medicine	California Northstate University	2011	Elk Grove, CA	No
CUNY School of Medicine	City University of New York	2013	New York, NY	Sophie Davis Program
The University of Texas Rio Grande Valley School of Medicine	University of Texas Rio Grande Valley	2013	Edinburg, TX	Regional Academic Health Center University of Texas at San Antonio
The University of Texas at Austin Dell Medical School	University of Texas at Austin	2012	Austin, TX	No
University of Nevada, Las Vegas School of Medicine	University of Nevada, Las Vegas	2014	Las Vegas, NV	No
Washington State University Elson S. Floyd College of Medicine	Washington State University	2014	Spokane, WA	WWAMI Program

SOM Governance	Preliminary Accreditation	Charter Class Enrolled	Charter Class Size	Projected Class Size
Private, For-Profit University	2015	2015	60	150
Public University	2015	2016	70	70
Public University	2015	2016	55	Unknown
Public University	2015	2016	50	50
Public University	2016	2017	60	Unknown
Public University	2016	2017	60	Unknown

Copy Editor: Jesse Y. Jou
Production Editor: Yasmine R. Legendre
Designed by: Vixjo Design, Inc.
Cover photo: Courtesy University of Texas at Austin Dell School of Medicine

ISBN# 978-0-914362-41-8

Printed in U.S.A. with soy-based inks on paper containing post-consumer recycled content and produced using 100% wind-generated power

Josiah Macy Jr. Foundation
44 East 64th Street, New York, NY 10065 www.macyfoundation.org





ISBN# 978-0-914362-41-8