University of Maryland School of Medicine
200 Years for Nation’s First Public Medical School

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BALTIMORE—In early December 1807, a mob opposed to dissection of human bodies razed the building where Baltimore surgeon John B. Davidge, MD, was teaching anatomy to aspiring physicians. The crowd carried off the cadaver.

Outrage over the rampage spurred introduction of a resolution in the Maryland General Assembly to establish a medical college in Baltimore. At the time, Maryland had fewer than 50 medically trained physicians. Delegates swiftly approved the bill.

On December 18, 1807, the Assembly chartered the College of Medicine of Maryland, now the University of Maryland School of Medicine, the nation’s first public medical school (http://medschool.umaryland.edu). Only 4 existing US medical schools are older: those at the University of Pennsylvania (1765), Columbia University (1767), Harvard University (1782), and Dartmouth College (1797), all private institutions.

The Assembly did not appropriate funds for the new school, however. Davidge, who became the college’s first dean, and his colleagues initially taught anatomy, surgery, midwifery, physiology, chemistry, and materia medica (pharmacology) in their homes. They used Baltimore’s Almshouse for clinical instruction. The 5 members of the first class to complete the 2-year curriculum received their Doctor of Medicine degrees in 1810.

Davidge and colleagues pooled their own money and secured loans to purchase land on the western outskirts of the city. There, they erected a pantheon-style domed building, red brick with eight white columns, completed in 1812 for about $40,000. Davidge Hall (http://medschool.umaryland.edu/davidge.asp), still in use today, has been designated a National Historic Landmark. Its portico provided a clear view of the 1814 British bombardment of Fort McHenry that inspired Francis Scott Key to write the Star-Spangled Banner.

Davidge Hall houses 2 circular amphitheaters, one above the other, each with rising rings of seating that accommodate about 200 people. In the upper amphitheater, Anatomical Hall, a large central skylight and 8 surrounding smaller skylights provide illumination. Given Baltimore’s steamy summers, dissections were conducted only between November and May. Today, the school uses this room and the lower amphitheater, Chemical Hall, for Match Day and other special occasions.

Contrary to myth, Davidge Hall has no secret dissecting rooms and no tunnels to nearby Westminster Cemetery, purportedly a prime source of cadavers in the school’s early days, says Larry Pitrof, executive director of Maryland’s Medical Alumni Association and author of The University of Maryland School of Medicine: The First Two Centuries (Baltimore: Medical Alumni Association of the University of Maryland Inc; 2007, http://www.medicalalumni.org/).

The medical college formally became the University of Maryland in 1812, when the state authorized it “to constitute, appoint and annex to itself faculties of divinity, law, and arts & sciences.” Maryland thus became the first university to arise from a medical school.

In 1815, Maryland opened a medical school library. In 1823, it built the Baltimore Infirmary, the nation’s first hospital designed for clinical instruction, for $16,000. Patients paid a weekly fee of $3.

Today, the medical school shares a 60-acre Baltimore campus with the University of Maryland Medical Center; schools of law, dentistry, pharmacy, public health, nursing, and social work; and the graduate school, which offers master’s and doctoral degree programs in health, physical, biomedical, medical, and social sciences.

In its 200 years, “the University of Maryland School of Medicine has been a leading voice for many important re-
forms in US medical education,” said Darrell Kirch, MD, president of the Association of American Medical Colleges (AAMC).

While few distinctions exist today between public and private medical schools, public medical schools still have the obligation to educate the state’s physicians and provide comprehensive care for its population, noted E. Albert Reece, MD, PhD, MBA, the 30th and current dean and vice president for medical affairs at the medical school. More than half the physicians in the state today received their degrees or training there.

17 000 PHYSICIANS
Since 1810, 17 000 physicians have graduated from the University of Maryland School of Medicine. The 160 students in the class of 2010 include 99 women (62%) and 61 men (38%). There are 125 Maryland residents, and 35 students from 16 other states. Graduates of 76 colleges and universities, these students had a 3.7 grade point average and an average MCAT score of 31. They were selected from 4160 applicants.

The school’s annual tuition is $19 855 for in-state residents and $36 198 for nonresidents. In fiscal year (FY) 2005, tuition and fees from medical students and other students at the medical school brought in $17 million, 2.7% of the school’s budget. Direct state appropriations, at $31.1 million, constituted 4.9% of the budget. The institution received $38 280 per medical student in state funds, about 42% of the $90 602 average that peer schools reported in FY 2004-2005 on the AAMC/Liaison Committee on Medical Education Financial Questionnaire (unpublished data).

A DIVERSE CLASSROOM
Diversity of both student body and faculty rose substantially under the leadership of Donald E. Wilson, MD, medical school dean from 1991 through August 2006, when he retired at age 70. “The more diverse the classroom, the more students learn about other people and their issues,” said Wilson, the school’s first black dean. About 16% of current students are minorities underrepresented in medicine, 19% are Asian, and 65% are white. During Wilson’s tenure, black faculty rose from 26 (3.1%) in 1991 to 92 (7.8%) in 2006.

“Under Dean Don Wilson and now under his successor Albert Reece, the school has been an outstanding champion for diversity in the medical profession,” said the AAMC’s Kirch. Wilson now directs the medical school’s new program in minority health and health disparities education and research.

In 1994, the University of Maryland School of Medicine overhauled its curriculum. “We set out to reduce rote memorization, foster self-directed study, and engage students in a lifelong commitment to learning,” said Frank Calia, MD, professor and chair of medicine, who was vice-dean when he shepherded this change.

The school stopped requiring students to own microscopes; it mandated laptops instead. Students’ first class now is informatics. In the first 2 years of school, lecture time was cut from 8 hours to 2 hours a day. Students meet 2 hours daily in groups of 8 to 10 with a faculty member. The rest of the time, they work independently to prepare for the next day’s discussion.

The school reorganized and renamed every course; for example, “anatomy” became “structure and development.” It instituted block teaching, with each block supervised by both a basic scientist and a clinician. Cell biologists, surgeons, and radiologists teach structure and development together, showing students the material’s relevance to clinical practice.

“We introduced physical diagnosis in the first year to foster students’ comfort in talking with patients about intimate topics from the start,” Calia said, “and we expanded their ambulatory care experiences.”

To further enhance the process of becoming a physician, in 2000, the medical school launched its “professionalism project,” led by John Talbott, MD, professor of psychiatry and past president of the American Psychiatric Association. Small groups—typically 7 students and 4 faculty members—meet together weekly for at least 2 years to explore how to break bad news, address physical or sexual abuse, handle ethical problems, treat celebrity patients, maintain alertness, stay attuned to their own family’s needs, and manage other sensitive topics (http://medschool.umaryland.edu/Professionalism/About.asp).

THE MODERN RESEARCH UNIVERSITY
“Maryland is one of the fastest growing research universities in this country,” Reece said. The University of Maryland School of Medicine ranked 25th among the 125 US public and private medical schools in funding from the National Institutes of Health in FY 2005. Sponsored research funding, at $349.5 million, represents 55.3% of the medical school’s FY 2005 budget of $632 million. Research funding increased 24% over FY 2004. Philanthropic gifts totaled $20.4 million, 3.2% of the 2005 budget. With an average of $172 171 in research grant expenditures per clinical faculty member in 2003-2004,
Among Maryland’s notable researchers is Angela Brodie, PhD, professor of pharmacology and experimental therapeutics, whose pioneering work on the role of estrogens in breast cancer, conducted at the School of Medicine since 1979, led to the development of aromatase (estrogen synthetase) inhibitors, increasingly viewed as first-line treatment for women with estrogen receptor–positive breast cancer. “Our aim is to bring breast cancer into the realm of chronic diseases that can be treated effectively,” said Brodie. For her work, she received the $200 000 Dorothy P. Landon-American Association for Cancer Research Prize for Translational Cancer Research in 2006, and the $250 000 Charles F. Kettering Prize for Cancer Research in 2005.

The institution’s biotechnology park, adjacent to the medical campus, aims to extend translational research. Describing projects with commercial potential, Reece cited the discovery in 2000 of zonulin, a protein that regulates the permeability of the intestine, by Alessio Fasano, MD, director of the School of Medicine’s mucosal biology research center. Fasano cofounded Alba Therapeutics, headquartered in the biopark. He and colleagues hope to transfer zonulin technology into treatment of celiac disease and other autoimmune diseases. The company’s lead compound is in phase 2 clinical trials.

COMMUNITY OUTREACH
A tertiary care center, the University of Maryland Medical Center also is the primary care center for its West Baltimore community. Clinical practice fees provided 23.2% of the medical school’s 2005 budget, or about $146.4 million.

For the past 6 years, the school has held a mini medical school for community residents, offering evening presentations in English and Spanish on topics such as high blood pressure, diabetes, asthma, sickle cell anemia, and mental illness. It also reaches out to medically underserved areas elsewhere in the state and in Latin America, Asia, and Africa.

“Maryland is a wonderful institution that has made many important contributions to education and science over the years,” said Calia, a member of the medical school’s faculty since 1969. “Its reputation just needs to catch up with its achievements.”

200th Anniversary Events
Information about events taking place during the University of Maryland School of Medicine’s year-long celebration of its 200th anniversary is posted at http://www.sombicentennial.umaryland.edu/.