



Elizabeth Petty, MD



Robert N. Golden, MD

Embracing Innovation in Medical Education

Elizabeth Petty, MD; Robert N. Golden, MD

There has been a widespread call for revolutionary change in American medical education, reminiscent of the environment that led to the game-changing Flexner Report in the prior century. Abraham Flexner's landmark report on medical education in 1910 included an endorsement of a model medical curriculum that had been proposed a few years earlier by the American Medical Association (AMA). This "two-plus-two" model of medical education consisted of 2 years of medically relevant basic sciences followed by 2 years of immersive clinical instruction.^{1,2} It became the cornerstone of medical education in the United States and Canada for more than a century. Flexner also noted the important role that physicians should play in addressing social and preventive issues, but public health and the humanities were not emphasized in his model.^{3,4}

Medical education leaders made many incremental improvements in the "two-plus-two" model over the ensuing century, including an increased focus on the clinical relevance of basic sciences, more clinical specialty content, improvements in assessment tools, the addition

of research training and service learning, and enhanced curriculum delivery methods. During the past decade, the pace of innovative and transformative change in medical education has

and accreditation bodies (eg, the National Board of Medical Examiners, the Liaison Committee on Medical Education)—have challenged schools to develop the most meaningful and relevant basic

Driven by the sense of urgency for curricular change, the nation's medical schools have developed and adopted new ways to prepare students for leadership roles in addressing individual and societal health care needs across the full continuum of rural, urban, and global communities.

accelerated dramatically in response to rapidly evolving changes in health care delivery. Adding to the momentum for change is a growing appreciation of the importance of public health perspectives, interprofessional training, health equity issues, and expanded pipelines of training for physicians committed to working with underserved populations.

Driven by the sense of urgency for curricular change, the nation's medical schools have developed and adopted new ways to prepare students for leadership roles in addressing individual and societal health care needs across the full continuum of rural, urban, and global communities. National organizations, including the AMA, the Association of American Medical Colleges, and the Association of Academic Health Centers—in partnership with assessment

sciences, public health, health care delivery science, and interprofessional content. At the same time, the "milestones" assessment approach that has been developed by the Accreditation Council for Graduate Medical Education is shaping the evolution of longitudinal medical student training and development. The confluence of these factors has stimulated an exciting era of medical education reform and has inspired the University of Wisconsin School of Medicine and Public Health (SMPH) to develop innovative educational programs that will serve as models for the entire nation.

From its launch more than a century ago, the SMPH has been a nationally renowned innovator in medical student education, beginning with the creation of the nation's first statewide, community-based preceptorship program in 1926,

• • •

Elizabeth Petty, MD, is the senior associate dean for academic affairs at the University of Wisconsin School of Medicine and Public Health; Robert N. Golden, MD, is the dean of the UW School of Medicine and Public Health and vice chancellor for medical affairs, UW-Madison.

and more recently—in 2006—its transformation into the first US school of medicine *and* public health.⁵ Major innovations include unique medical student education programs designed to address major health needs in rural and urban areas of our state: the Wisconsin Academy for Rural Medicine (WARM) and the Training in Urban Medicine and Public Health (TRIUMPH) program.^{6,7} These two tracks are designed to recruit and educate medical students who are committed to serving underserved rural and urban populations. They also represent a strong, dynamic partnership via our statewide academic campuses with Aurora Health Care, Gundersen Health System, and the Marshfield Clinic. To date, these innovative programs are achieving their goals. Most WARM graduates have chosen to practice medicine in rural Wisconsin after completing their residency training. The majority of the TRIUMPH medical students pursue residency training in urban “safety net” health centers, and a few of the earliest graduates have returned to Milwaukee to serve as faculty members in the TRIUMPH program. The relatively recent creation of our school’s Native American Center for Health Professions is showing promise in achieving the goal of increasing the opportunities and workforce of Native American physicians. A robust, fully accredited Master of Public Health degree program, which includes dual-degree programs for medical, physician assistant, nursing, pharmacy, and other health professions students, is well established.

In 2016, after 4 years of intensive, thoughtful planning, the SMPH abandoned the “two-plus-two” model of medical education and launched its new, highly integrated ForWard Curriculum, which has 3 phases over 4 years. This interdisciplinary curriculum includes early immersion within interprofessional clinical teams; robust small-group, case-based active learning; increased career exploration options; and strong internship preparation (<http://www.med.wisc.edu/md-program-forward-curriculum/48018>). We also have carefully aligned our curriculum and career development programs with graduate medical education milestones to enhance the longitudinal professional development of our students. SMPH medical students continue to benefit from robust, statewide clinical education experiences at different health systems and academic

campuses, with major hubs located in Green Bay, La Crosse, Madison, Marshfield, and Milwaukee.

Under the leadership of the Medical College of Wisconsin, we recently have partnered with 6 other medical schools from throughout the United States, as a founding member of the Kern Institute National Transformation Network, to develop major innovations in medical education (<https://www.mcw.edu/Kern-Institute.htm>). These transformations align well with the reinvigorated national emphasis on medical education reform that is designed to meet the changing landscape of health care and population health.

We remain deeply committed to ongoing innovative change and continuous quality improvement. Specifically, we are working on additional innovations and improvements that will promote:

1. An **integrated, interdisciplinary curriculum** that is highly relevant and responsive to current and predicted health care, public health, and societal needs in our state and throughout the world.
2. An **interprofessional collaborative learning environment** that prepares learners to serve effectively on high-functioning teams that promote patient safety, high quality care, and optimal health outcomes.
3. **Immersive, hands-on, experiential learning approaches**—in clinics, classrooms, and communities—that are robust and meaningful and foster problem solving, critical thinking, and analytic skills.
4. **Individualized, flexible learning opportunities** that encourage scholarly pursuits in biomedical research, global health, public health, rural medicine, and urban medicine.
5. **Internship preparation and career exploration options** that enable students to become highly competent and confident from the start of their residencies.
6. An **inspirational professional learning environment and culture** that is built on a foundation of respect, humility, integrity, and empathy.
7. **Independent, lifelong learning skills** that nurture curiosity and enhance learners’ ability to critically analyze data.
8. **Inclusion, equity, and diversity** that challenge students to identify and address

health disparities and advance health equity.

9. Resilience and individual wellness that foster career satisfaction, professional fitness, and personal satisfaction.

10. Integration into diverse communities across Wisconsin and beyond.

All of what we are building is based on the foundation of the “Wisconsin Idea.” Our priorities and strategies are shaped by the needs of the people of Wisconsin. We embrace all opportunities to form partnerships with communities, health care systems, and individual practitioners throughout the state. While we continue to grow our national reputation for excellence, our primary focus remains serving the people in our state. We currently receive approximately 10% of our budget from state funds, and we reserve approximately 70% of our medical student slots for applicants from Wisconsin (over the past 10 years, on average, 77% of our enrolled medical students have been Wisconsin residents). We will continue to develop pipeline and educational programs that are designed to attract the most highly qualified applicants with diverse interests, talents, experiences, backgrounds, and perspectives. We embrace change and educational innovation aimed at creating a new generation of physicians who, collectively, will address the unmet and evolving needs of the people and communities in our state, and ultimately the nation.

REFERENCES

1. Report on the Council on Medical Education to the House of Delegates of the AMA. *JAMA*. 1905;45:269.
2. Council on Medical Education. History of the Council on Medical Education, 1904-1959, Chicago, IL, American Medical Association, 1959.
3. Flexner A. Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching. Bulletin No. 4. New York, NY: The Carnegie Foundation for the Advancement of Teaching, 1910.
4. Ruis AR, Golden RN. The Schism Between Medical and Public Health Education: A Historical Perspective, *Academic Medicine*. 2008;83(12):1153-1157.
5. Golden RN. An Integrated School of Medicine and Public Health—What Does it Mean? *WMJ*. 2008;107:142-143.
6. Crouse B, Golden RN. A Strategic Approach to Addressing the Rural Wisconsin Physician Shortage. *WMJ*. 2016;115:210-211.
7. Golden RN. A Strategic Approach to Addressing Physician Workforce Needs. *WMJ*. 2010;109:111-115.

advancing the art & science of medicine in the midwest

WMJ

WMJ (ISSN 1098-1861) is published through a collaboration between The Medical College of Wisconsin and The University of Wisconsin School of Medicine and Public Health. The mission of *WMJ* is to provide an opportunity to publish original research, case reports, review articles, and essays about current medical and public health issues.

© 2017 Board of Regents of the University of Wisconsin System and The Medical College of Wisconsin, Inc.

Visit www.wmjonline.org to learn more.