



## NYU PROGRAM PROVIDES DATABASE FOR INTERPRETATION OF MEDICAL INFORMATION



While medical students are trained in basic science to diagnose and treat patients, they are not taught how to find and interpret massive stores of data in medical school. Every first- and second-year medical student at New York University (NYU) Medical School is required to be part of a Health Care by the Numbers project.

The curriculum provides access to a database for about 50,000 outpatients called the Lacidem Care Group (Lacidem, or medical spelled backwards). The data is derived from the NYU faculty members' practices, with the names of the patients and doctors blocked out so neither faculty members nor patients can be identified.

Students examine quality measures such as heart failure, diabetes, smoking, and hypertension. One student wanted to know if the cost to patients for hip replacement surgery around the state varied like the cost of a fast-food hamburger. He used his own "Whopper Index" to prove that the price of a giant burger was higher in New York City than in Albany, New York. He also found that the price of hip replacement paid by patients varied similarly around the state of New York, but with a much larger margin for health care than hamburgers.

Another project performed by two students looked at the cost of cesarean births around the state and found the cost also varied widely. NYU is offering the database and the program to other medical schools, with seven sites already incorporating the program into their curricula.

*(Rovner J. Med school teaches science and data mining. Medscape; November 3, 2015.)*

## CONGRESSIONAL ACTION SUGGESTED TO INCREASE GROWTH IN PHYSICIAN WORKFORCE



Without an increase in graduate medical education support, there may not be enough residency positions for the additional medical school graduates needed to address the growing physician shortage. The Association of American Medical Colleges (AAMC) said medical school graduates are having trouble finding residency positions since 412 graduates did not match in 2014.

Growth in the physician workforce will not keep pace with increasing demand without congressional action to lift the cap on Medicare support for residency positions. The AAMC projects a shortage of 12,500 to 31,100 primary care physicians in the next 10 years and 28,200 to 63,700 specialists, despite the record number of students applying to and attending medical school.

The physician shortage is mainly due to the expanding number of those over 65 who have the greatest health care needs. Heart disease alone accounts for 25 percent of deaths among seniors and nearly 33 percent of deaths over age 85. Cancer occurs 10 times more often in those over 70 compared to younger adults.

*(AAMC STAT. Association of American Medical Colleges, February 29, 2016.)*

# CHALLENGE TO ACCURACY AND IMPORTANCE OF U.S. MEDICAL LICENSING EXAMINATION STEP 1 IN RESIDENCY SELECTION



The United States Medical Licensing Examination (USMLE) Step 1 is a one-day, multiple-choice examination that assesses mastery in the sciences, providing a foundation for the safe and competent practice of medicine and the scientific principles needed to maintain competence through lifelong learning.

It is designed, written, and reviewed, with minimum test scores set by representatives of the U.S. medical education and medical licensure communities. Some evidence states that the examination predicts future clinical quality and outcomes. Step 1, however, is often used to screen applicants for residency selection, but the examination was not designed to be a primary determinant of the likelihood of success in residency.

No evidence has been provided that USMLE Step 1 scores are able to identify the medical students most likely to succeed in the acquisition of competencies

expected during residency. In spite of this, many residency directors use the examination as the sole primary screen to determine which applicants will be interviewed. The practice is prevalent in the more competitive residencies, such as orthopedic surgery, radiation oncology, dermatology, ophthalmology, and otorhinolaryngology.

The authors' examination said it is ill-advised to use the test for this purpose and emphasize that the scores have not been directly validated to do so. Program directors indicate that because there are so many applicants for the competitive residency positions, they require an easy-to-apply mechanism to reduce the applicant pool. The authors said using the USMLE Step 1 makes decisions about medical school graduates that could affect graduates' career choices by using a method not supported by strong evidence and repeated that the test was not designed for such a purpose.

Students who score around the mean decide to abandon plans to pursue certain specialties, since they believe their application will not be considered in the initial screening process. The authors believe that there is too much emphasis on USMLE Step 1 in screening for residency selection and that it also creates undue stress. They made a plea, as part of curricular reform and quality improvement, to move away from a focus on acquiring testable facts.

Information also showed that medical students study an average of four to nine weeks for Step 1. Authors said that if each of the approximately 20,000 medical students spent six weeks dedicated to the study of this examination, there would be 2,000 person years devoted to this activity. The authors recommended that greater attention be given to other qualities among residency applicants, including clinical reasoning, patient care, professionalism, and being

able to function as part of the health care team.

In addition, the authors supported other parts of a holistic review, such as research experience and accomplishments, community engagement, leadership, unique personal attributes, and diversity. Further consideration can be derived from performance during clinical rotations with recommendations from clinical faculty members, patients, residents, other health professionals, and peers.

They recommended that weight be given to performance during core clinical clerkships, performance during specialty specific subinternships, and electives. Such an initiative would be a much more relevant representative measure of competencies than USMLE Step 1 scores alone.

*(Prober CG, Kolars JC, Lewis R, First LR, Melnick DE. A plea to reassess the role of United States Medical Licensing Examination Step 1 scores in residency selection. Academic Medicine, (91) (1); January 2016.)*

# INTERPROFESSIONAL VIRTUAL TEAMS COORDINATE SUCCESS WITH WEB-BASED CASE SYSTEM



Virtual interprofessional health care teams may be more effective, manage information better, have more reliable channels for communication, and receive greater contributions from team members holding a lower status in the team hierarchy. Such teams are successful when they—both students and providers—obtain specific training, leading to outcomes similar to non-virtual teams. Being an effective member of a virtual health care team requires competency in interprofessional practice and information technology.

Information technology, however, has not been integrated into health professions education. The electronic health record (EHR) is the dominant form of information technology in health care. It is an essential tool virtual teams use to coordinate care, decrease errors, and improve the quality of care, but training in using EHRs does not always include the concept of asynchronous teamwork.

The authors developed a web-based case system to teach and assess interprofessional practice competencies. The system simulates

select features of the EHR, such as data retrieval, documentation, and messaging. Logistical barriers were overcome by aligning students' schedules and locating appropriate classrooms. Student work was structured to simulate collaboration, creating an educational work process that promoted interaction as well as including methods to track and assess student behaviors. The case system contained an electronic message board for the purpose of communication of team answers between team members, thus facilitating the work.

All fourth-year M.D. and B.S. in Nursing students were enrolled along with 60 fourth-year pharmacy student volunteers and all second-year students in the clinical practice concentration of the Master of Social Work program. The students were placed on teams of four to nine members for a six-week interval. Every team completed four modules of a single unfolding case, each lasting about 10 days.

Prior to completing each block, participants attended a two-hour, face-to-face orientation

while simultaneously being introduced to their team members as well as to the case system. Additionally, there was a faculty member serving as a preceptor who wrote the case for each team. While faculty members observed the students and provided occasional feedback regarding the function of the team, they did not help teams answer case questions.

Overcoming logistical difficulties such as space and scheduling, students answered case-related knowledge questions individually and worked asynchronously to answer the same questions as a team. As a result, a longitudinal interprofessional education team experience provided extensive and detailed objective assessment data of both individual and team performance. The case system should provide a new approach to student assessment in interprofessional practice as well as in the use of EHRs.

*(Dow AW, et al. Training and assessing interprofessional virtual teams using a web-based case system. Academic Medicine. (91) (1). Pp 120-126; 2016.)*

## FEWER AFRICAN AMERICAN MEN CHOOSING MEDICAL SCHOOL

The Association of American Medical Colleges (AAMC) released a report in August 2015 that found that while there has been an increase in the number of African American men graduating from college over the past three decades, the number of those men who apply to medical school decreased from just below 1,400 in 1978 to 1,330 in 2014.

In addition, there has been a decrease in African American men

who enroll in medical school from 542 in 1978 to 515 in 2014. Fewer African American men choose the science, technology, engineering, and math fields, which also affects the medical school applicant pool.

Darrell Kirch, M.D., president of the AAMC, said "We have to redouble our efforts in the health professions to improve the talent pipeline of African American males in order to

have a physician workforce that is representative of the population."

The information was presented at the National Medical Association convention—the largest gathering of black physicians and health care professionals in the United States.

*(Fewer black men going to med school. The Nation's Health. American Public Health Association. P15; November/December 2015.)*



## WORKING IN FREE CLINICS MOTIVATES MEDICAL STUDENTS TO PRACTICE IN UNDERSERVED AREAS

A study showed that students who were exposed to free clinics during medical school are more likely to become or remain committed to practicing in underserved areas. The presence of longitudinal clerkships in underserved areas, other community-based field experiences, or curricula related to public health or health disparities may also influence student commitment to practice in underserved areas.

Students with opportunities to participate in free clinics greatly varied among medical schools, with proportions that ranged from 15 percent to 100 percent. A higher proportion of students with exposure to free clinics expressed continuing commitment

to practicing in underserved areas compared with students without such exposure. Students were 1.65 times more likely to indicate a willingness to practice in an underserved area if they had a free clinic experience than students without such an experience. After controlling for race, ethnicity, age, and gender, a free clinic experience predicted a student's intent to practice in underserved communities and may enhance a student's interest and commitment.

*(Does free clinic experience enhance medical student commitment to underserved areas? Analysis in Brief. AAMC. (16) (2); February 2016.)*



NOVA SOUTHEASTERN  
UNIVERSITY

College of Osteopathic Medicine

3200 South University Drive, 4th Floor, Room 1495, Fort Lauderdale, FL 33328-2018  
(954) 262-1469 • <http://osteopathic.nova.edu>

The Medical Education Digest is published bimonthly through  
the NSU-COM Office of Research and Innovation.

Editor: Leonard Levy, D.P.M., M.P.H., Associate Dean

Editing: NSU-COM Office of Medical Communications and Public Relations Graphic Design: Brandee Evans

Nova Southeastern University is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award associate's, baccalaureate, master's, educational specialist, doctorate, and professional degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of Nova Southeastern University. • Nova Southeastern University admits students of any race, color, sex, age, nondisqualifying disability, religion or creed, sexual orientation, or national or ethnic origin to all the rights, privileges, programs, and activities generally accorded or made available to students at the school, and does not discriminate in administration of its educational policies, admissions policies, scholarship and loan programs, and athletic and other school-administered programs.