New York University Grossman School of Medicine
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Medical Education Program Highlights

The NYU Grossman School of Medicine (GSOM) and NYU Hospitals Center function as the NYU Langone Medical Center (NYULMC), an integrated academic medical center. It has a unique organizational structure wherein leadership of the hospital and medical school is under a single CEO and dean, crucial to developing and implementing our strategic plan.

The GSOM offers several parallel tracks allowing students a customized education, including 4- and 5-year dual-degree programs.

- MD–MPA, health policy and management
- MD–MPH, global public health
- MD–MS, translational research
- MD–MA, bioethics
- MD–MBA, general management

An accelerated 3-year MD pathway (3YMD) offers conditional acceptance through the NRMP to 1 of NYULMC’s 20 residency programs.

Students train at Bellevue Hospital, the country’s first public hospital, as well as our flagship Tisch Hospital, new state-of-the-art Kimmel Pavilion, Hassenfeld’s Children’s Hospital, and VA NY Harbor Health Care (VA) system, thus experiencing firsthand a diverse patient population.

All students receive full-tuition scholarships regardless of need or merit.

The Institute for Innovations in Medical Education (IIME), one of the largest medical education innovation groups nationwide, harnesses GSOM’s diverse intellectual capital to drive discovery, development, and validation of new information technologies for medical education. We are a leader in use of sophisticated tools to collect, analyze, and display electronic learning data (e.g., dynamic dashboards). The opportunities such data present are potentially transformative: our evaluation of curricular effectiveness can move from anecdotal to epidemiologic, detailed learner-level data can drive the move toward individualized learning and personalized progression, and analyzing performance changes over time can propel us toward competency-driven health education.

Curriculum

Curriculum description

Our 145-week curriculum is divided into 4 stages:

- Stage 1: 18 months of preclerkship modules
- Stage 2: 12 months of core clerkships
- Stage 3: a 6-month period between the end of clerkships and beginning of the fourth year
- Stage 4: final 12 months


Curriculum changes since 2010

Our Curriculum for the 21st century (C21) was implemented in 2010. Driven by our CQI process, we identified curricular gaps and opportunities and instituted a number of major changes (examples below).

MD AWARE Curriculum: The goals of the Medical Students Developing Awareness, Well-Being, And REsilience curriculum are to help students:

- Understand relationships between awareness, well-being, resilience, and burnout
- Foster self-awareness through regular self-assessments
- Recognize signs of stress and respond with healthy coping tools
- Develop and practice evidence-based techniques promoting resilience
- Build strong peer connections

The 7-session curriculum spans the first 2.5 years. Each session includes a large-group exercise and brief didactic, providing students an opportunity to self-assess their well-being and resilience, and a small-group segment. Topics for each session align with typical challenges faced by students at that point in their training. The small-group segments provide opportunity for sharing experiences in a safe setting with classmates, peer mentors, and nonfaculty-trained staff.

Anatomy curriculum redesign: Our new Living Anatomy module provides students with practical skills that could be further honed throughout medical school. Instead of uncovering structures by dissection, students now examine expertly dissected plastinated specimens and faculty-prosected cadavers. This allows allocation of more time for clinical correlations/clinical reasoning exercises, resulting in more durable retention of anatomical knowledge.

Additionally, we expanded hands-on use of imaging using the same PACS system students will use in clerkships. This allows seamless integration with anatomy content, while acknowledging the reality that most students will “see” inside...
their patients using imaging instead of with a scalpel. We also incorporated AR and VR exercises selected to solve educational challenges the anatomy presents or to gain familiarity with tools currently used to plan surgical procedures. For those who want to experience cadaveric dissection, we offer clerkship and postclerkship electives.

Academic coaching: Each student is assigned a Violet Society Program (VSP) advisor to provide career advising and guidance on clinical, research, educational, and community-building opportunities. Recently, the VSP was expanded to include academic coaching. Each advisor will partner with their advisee to review academic performance dashboards, identify areas of weakness, and plan strategies for achieving career goals.

Clinical science inquiry (CSI): We designed a mobile platform integrating clinically relevant basic science concepts into core clerkships to help students revisit basic science content. CSI employs just-in-time and situated learning by emailing 2–3 questions a week to students’ mobile devices. Questions were curated by a team of clinical and basic science faculty who teach and know the preclerkship content. Completion is mandatory, tracked centrally, but does not contribute to students’ final grades.

Assessment

Our medical education program objectives are based on ACGME competence domains. However, as 1 of 10 AAMC-appointed medical schools serving as a pilot cohort for testing implementation of the 13 Core Entrustable Professional Activities (EPAs), we are using EPAs to design assessments of these competencies.


In 2016, we appointed a director of integrated clinical skills to oversee assessment of clinical skills, thereby creating a comprehensive, coordinated system of assessments using a common framework. Since January 2019, clinical skills assessments in all curricular stages use behavioral anchors reflecting the Core EPAs. This allows students and their VSP coaches to track, via learner-specific dashboards, trajectories toward increasingly independent practice.


Parallel curriculum or tracks

GSOM offers several parallel tracks that allow customized education, including the dual-degree programs previously described and accelerated 3YMD program. The curriculum for the first 2.5 years aligns with our 4-year program, while the last 6 months are devoted to a subinternship, critical care rotation, and elective time to meet the 130 weeks of required education. The 3YMD offers conditional acceptance, through the NRMP, to any of NYULMC’s 20 residency programs. Students also have the option of applying to an external residency program.

We offer acceptance into the 3YMD program for prematriculated students as well as 2 opportunities (opt-in) allowing current students program entry at 2 points, April/May of either their first year or clerkship year. Opt-in students are limited to 3YMD residencies available at the time of program application.

Pedagogy

A major goal of our C21 curriculum was shifting from a largely lecture-based curriculum to a more small-group, active learning environment. Our new structure is approximately 50% lecture, 25% small-group conferences, and a 25% mixture of laboratories, simulation, team-based learning sessions, and workshops. Small-group conferences focus on case-based learning. During the clerkship year, clinical exposure includes both inpatient and outpatient venues.

Additionally, our 18-month Practice of Medicine (POM) module is directed by a full-time faculty member supported by several full-time staff members. Clinical faculty, with time dedicated for weekly teaching, provide sufficient coverage for uniform teaching across the 18-month module. The increased faculty allows more frequent bedside teaching sessions enriched to include interviewing, physical examination, clinical reasoning, oral presentation, and write-ups. The number and frequency of POM OSCEs have also increased.

All POM and clerkship OSCEs have direct observation with verbal and written feedback and are assessed using a Core EPA framework. Since all OSCEs use identical checklists, faculty and students can efficiently, effectively track clinical skills acquisition.

Twelve online modules, WISE-On Call, were developed to prepare students for transition to residency through a symptom-based review of conditions they will likely encounter while on call. Modules incorporate didactic review of key concepts and causes associated with presenting symptoms, simulated cases modeling a resident’s response to on-call scenarios, case-based practice questions to test students’ knowledge, and symptom checklists to direct focus to the larger constellation of symptoms when prioritizing their differential. The modules stress the importance of appropriate interprofessional communication.

We added a mandatory simulation for all graduating students, Night On Call, using WISE-On Call modules. This 4-hour readiness-for-internship multi-instructional method simulation uses standardized patients, nurses, and attending physicians to simulate the experience of a hectic night on call. Launched in 2016, this program has been used to assess graduates’ entrustability, through the lens of all 13 EPAs, performing multiple clinical tasks and responsibilities.

Clinical experiences

The major components of required curricula for the parallel tracks (3YMD; 4- and 5-year dual degree) are identical. Differences between tracks center around elective requirements.
All required clerkships use the diversity of patient experiences at various teaching sites. Each clerkship sends students to Bellevue Hospital, Tisch Hospital, Kimmel Pavilion, and Hassenfeld Children’s Hospital. Additionally, with the exception of pediatrics and obstetrics–gynecology clerkships, students rotate through the VA. In the 4-week ambulatory care clerkship, students are assigned to various outpatient settings citywide. The pediatrics, surgery, obstetrics–gynecology, and neurology rotations include outpatient clinic experiences. Outpatient clinics are primarily at Bellevue Hospital and the VA. Community-based electives are also offered.

With the opening of Kimmel Pavilion, we added 830,000-square-feet, including 11 patient floors, to NYULMC’s hospital space. Several floors of Kimmel comprise Hassenfeld Children’s Hospital, a facility with 68 single-patient rooms, the only pediatric inpatient facility with this feature in Manhattan. Together with our affiliates, our patient census provides rich clinical experiences. While implementing clinical curricular changes can be challenging, the support of clinical chairs and dean is essential for our success.

Curricular Governance

The Curriculum Committee derives its authority from the dean and oversees the educational program in the broadest sense. Current composition of the committee includes representation from module and clerkship directors, GME Office, selective directors, student body, medical library, assessment experts, and 2 or 3 individuals not directly involved in daily instruction of students. Additionally, we created a Subcommittee on Outcomes and Evaluations to enhance our competency-based curriculum. See Figure 1—Curriculum oversight structure.

Education Staff

The Office of Medical Education (OME), under the senior associate dean for medical education, actively supports the curriculum by providing administrative and academic support for planning, implementation, and oversight. Budgeting for teaching, assessment, and academic support is managed centrally by OME.

OME is supported by over 30 individuals. The Division of Education Quality (DEQ), within IIME, provides independent, ongoing curricular evaluation (CQI process) to guide changes in our C21 curriculum. See Figure 2—Organizational chart.

OME leadership, in consultation with DEQ, is charged with setting policies and standards; however, the Curriculum Committee formally reviews and approves all such policies and standards. Additionally, monthly meetings with clerkship and module directors permit further review of achievement standards, ensuring their alignment with GSOM’s broader curricular objectives. While OME focuses exclusively on UME, input from GME and residency program directors helps identify curricular areas needing modification.

Figure 1 Curriculum oversight structure.
Beyond these far-reaching goals, clerkship directors are responsible for setting clear expectations for student achievement in clerkships and for establishing and implementing transparent schema for determining grades. The OME reviews these policies to ensure consistency across clerkships, while permitting the flexibility to meet the needs of various clinical disciplines and rotations.

**Faculty Development and Support in Education**

OME operates as an educational resource to faculty for developing and assessing effectiveness of course objectives, content resources, and teaching modalities. It conducts or sponsors workshops to improve small-group teaching, assessment strategies, innovative teaching modalities, and evaluation strategies for programs.

IIME provides a resource to assist faculty in developing effective learning modules that optimize learning outcomes by applying individualized, innovative educational approaches. IIME’s instructional designer and multimedia teamwork with faculty 1-on-1 to develop, produce, and implement computer-assisted learning experiences supporting learning goals and objectives.

We currently have 8 academic tracks with a common teaching requirement. To be considered for promotion, documenting the scholarship of education requires demonstration of accomplishments via a teaching portfolio. Course leadership and design; the judgment of students, trainees, and peers; and meritorious publications are also considered when assessing a faculty member’s teaching.

In 2016, our Educator Community was launched to recognize excellence in teaching and learning, coordinate faculty skill development and peer mentoring in education, strengthen programs supporting medical educator career advancement, and cultivate opportunities for educational innovation and scholarship. It is home to approximately 500 faculty and staff with leadership roles in education and includes faculty across UME, GME, and the College of Nursing.

**New Initiatives**

GSOM was 1 of 8 awardees of the AMA's 2019 Reimagining Residency Initiative. We propose developing a new approach to the UME–GME transition, the Transition to Residency Advantage (TRA) program. TRA will be rooted in learner-created GME training goals, based on insights gained from UME performance data, that drive responsive changes in GME training. Goal setting will be facilitated by existing VSP coaches and a new cadre of GME “bridge coaches.” This process will initially focus on graduates who remain for residency and is a “warm” transition with synchronous in-person meetings among learner/UME coach/GME bridge coach, eliminating traditional compartmentalization of education planning, mentoring, and learner support.