

## Rutgers New Jersey Medical School

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### Medical Education Program Highlights

The strategic vision of Rutgers New Jersey Medical School (NJMS) is to optimize health and social well-being by preparing humanistic leaders in global health care through education of physicians and scientists, building on our strengths of diversity, hands-on clinical training, urban health care programs, and transformative research. In 2015, NJMS's curriculum revision resulted in an organ systems–based curriculum with the following guiding principles:

- Integration of basic and clinical sciences vertically and horizontally
- Longitudinal service learning
- Professional identity development
- Interprofessional and interdisciplinary opportunities
- Health systems sciences
- Active learning activities with innovations in educational technology
- Learner readiness

Furthermore, NJMS's curriculum has unique strengths with a special commitment to the health of underserved communities.

- Health equity and social justice content is integrated throughout all required courses and clerkships to prepare future physicians to be responsive to societal issues.
- A community-engaged service learning requirement teaches students to identify and reflect upon community needs and assets, fostering an enhanced sense of civic responsibility.
- NJMS was one of the first medical schools in the United States to provide training required by the Drug Abuse Treatment Act of 2000 (DATA 2000) for graduating students, which allows them to be eligible for the waiver required by licensing boards.
- A health systems science curriculum was implemented including topics such as patient safety, value-based care, interprofessional collaboration, and clinical informatics.
- Distinction tracks in the areas of entrepreneurship and innovation in medicine, global health, medical education, service, research, and urban health provide enhanced professional development for select students.
- An accelerated 3-year primary care MD track was implemented in July 2019.

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Year school was established: 1954.  
School URL: <http://njms.rutgers.edu>.

### Curriculum

#### Curriculum description

The curriculum, divided into 3 phases, can be visualized as blocks where each section is taught with an integrated organ systems approach and/or a clinically focused component. These are complemented by threads that cut across the curriculum.

Phase 1 (years 1 and 2), core biomedical content and clinical integration:

- Year 1: Foundations of body systems, followed by an organ systems–based curriculum including musculoskeletal and integumentary, cardiovascular, pulmonary, and renal courses
- Year 2: Digestive, genitourinary, and endocrine systems; and neurology, psychiatry, and biostatistics courses

Phase 2 (year 3), clinical immersion:

- Ambulatory primary care, medicine, pediatrics, surgery, neurology, obstetrics–gynecology, psychiatry, integrative weeks, and electives

Phase 3 (year 4), clinical differentiation:

- Emergency medicine, rehabilitation medicine, acting internship, electives, transition to residency (capstone)

See Supplemental Digital Appendix 1—Curriculum Map—at <http://links.lww.com/ACADMED/A956>.

Key features of the curriculum:

- Dedicated integration/assessment weeks and capstone courses to enhance critical thinking and problem-solving skills through clinical case–based discussions
- Protected half days in Phase 1 curriculum for individualized learning and wellness
- Ample time for career exploration through electives and selectives
- Specialty-specific skills preparation for transition to residency

#### Curriculum changes since 2010

An accelerated 3-year primary care track was implemented while maintaining the same class size.

An organ systems–based curriculum and mappable attainment of student competencies in Entrustable Professional Activities (EPAs) were implemented and linked to the 6 required curriculum competencies. In addition, students have a greater opportunity to track their progress and actively engage in their learning process. We introduced 2 integrative weeks during Phase 2 (year 3) focusing on wellness, clinical reasoning, implicit bias, and EPA assessment. A capstone (transition to residency) course was implemented during Phase 3 and includes:

- Completion of Institute for Healthcare Improvement Basic Certificate in Quality and Safety
- Topics on fatigue, professionalism, teaching medical students, writing orders, transitions of care, informed consent, and preventing burnout
- Basic ultrasound skills workshop

See Table 1—Program Objectives and Assessment Methods.

The medical education program objectives are linked to ACGME competencies and AAMC Core EPAs. In addition to summative assessments and shelf exams, there are formative assessments throughout the curriculum. Competencies in clinical and basic science knowledge are assessed with graphical feedback at regular intervals during Phase 1.

Competencies in EPAs are assessed using integrative OSCEs at strategic points:

- Phase 1: EPAs 1 (history and physical), 2 (prioritize differential diagnosis), 5 (document clinical encounter), and 6 (oral presentation)
- Phase 2: Two integrative weeks with assessments of EPAs 1, 2, 5, 6 with EPA 3 (recommend and interpret common diagnostic tests), 10 (recognize emergent/urgent conditions), and 12 (perform general procedures of a physician)
- Phase 3: Peer-to-peer assessments for EPAs 1, 6, 10 with EPA 4 (enter and discuss orders/discharge a patient), 8 (patient handover to transition care responsibility), and 11 (informed consent)

This allows students to have multiple assessment points and individualized remediation plans in preparation for residency.

### Parallel curriculum or tracks

In July 2019, NJMS enrolled its first cohort into the accelerated 3-year primary care MD program, addressing the national

and state shortage of primary care physicians. This parallel curriculum builds upon the strengths of the 4-year curriculum with clinical experiences and community activities. Students commit to a primary care residency (pediatrics, internal medicine, combined internal medicine/pediatrics) and receive a conditional acceptance into the respective residency program.

Highlights of the 3-year curriculum include early clinical immersion, a longitudinal primary care preceptorship starting in year 1, and completion of a population health certificate in conjunction with the Rutgers School of Public Health.

### Pedagogy

NJMS has carefully reviewed its curriculum to increase active as well as independent learning. We have increased small-group sessions, added journal clubs, engaged patients as teachers, and reduced the number of lectures and large-group didactics.

We use flipped classroom sessions, peer and faculty feedback on oral presentations through video submissions, individualized learning plans to identify gaps and weaknesses in clinical skills from the EPA OSCEs, peer teaching, and skills workshops. This is in addition to team-based learning, podcasts, clinical small-group sessions using standardized patients and simulation, and e-learning modules.

### Clinical experiences

- NJMS is known for its historic hands-on clinical experiences with a diverse patient population inclusive of vulnerable and underserved communities.
- Clinical sites include the VA New Jersey Healthcare System, university- and community-based hospitals, as well as community- and university-based primary care practices.
- Early exposure to patients is part of the patient-centered medicine program that begins during Phase 1, where students spend 10 weeks in an ambulatory primary care preceptorship

Table 1

### Program Objectives and Assessment Methods

Medical education program objectives	Assessment methods
Mastery and integration of clinical, basic, and health systems sciences	Written exams, quizzes, shelf exams, team-based learning (TBL), reports, write-ups, progress notes, lab sessions, presentations, clinical performance, OSCE, Patient Oriented Problem Solving exercise, journal club exercise
Excellence in clinical skills	Written exams, quizzes, shelf exams, TBL, reports, write-ups, progress notes, lab sessions, presentations, clinical performance, teaching OSCE, OSCE, simulation, case presentations
Excellence in professionalism and humanism	Written exams, quizzes, TBL, reports, lab sessions, presentations, clinical performance, OSCE, mandatory training-sign-in, HIPAA training
Commitment to the health of the community and appreciation of social and cultural diversity	Written exams, quizzes, shelf exams, presentations, write-ups, narrative writing, clinical performance, teaching OSCE/OSCE, integrative OSCE, clerkship reflections, self-test and self-reflection on implicit bias
Dedication to lifelong learning and personal wellness	Written exams, shelf exams, TBLs, write-ups, progress notes, simulation, presentations/reports, clinical performance, OSCE, teaching OSCE, Patient Oriented Problem Solving exercise, integrative OSCE, clerkship reflections, case presentations, interviews/discussions
Development of effective skills in education and communication	Written exams, shelf exams, TBLs, lab, write-ups, progress notes, simulation, presentations/reports, clinical performance, OSCE, teaching OSCE, student family health care clinic, Collaborative Approach to Learning Medicine, and other organizations

setting. During Phase 2, the family medicine clerkship is predominantly situated in community-based practices.

- Electives are offered in community-based health care settings through the departments of Emergency Medicine, Internal Medicine, Pediatrics, and Family Medicine. NJMS also has several core community-based affiliate partners that offer electives in the vast majority of specialties.
- The major challenge in implementing clinical experiences is the placement of learners in available primary care community sites for longitudinal preceptorship experiences.

**Curricular Governance**

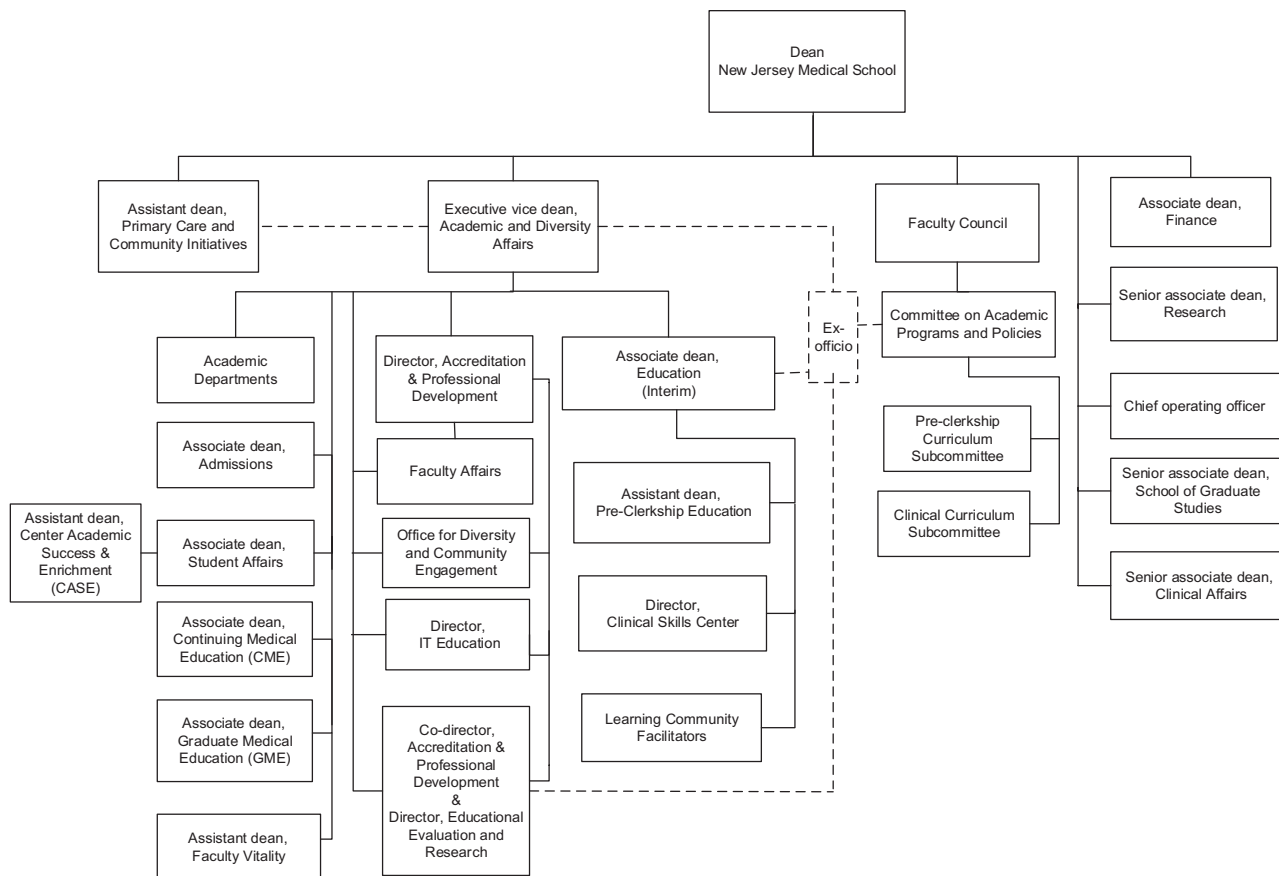
- The executive vice dean is the chief academic officer. Management of the educational programs is a shared responsibility of the academic departments and the Office of Education, which reports to the executive vice dean.
- The Faculty Organization solicits and provides input to the Committee on Committees, which selects members for the standing committees that are approved by the Faculty Council.
- The Committee on Curriculum, Academic Programs, and Policies (CAP2), a standing committee, is charged with the design, evaluation, revision, approval, and oversight of the curriculum as well as overall vertical and horizontal integration of the education program. It makes recommendations to the

dean and Faculty Council regarding implementation of these programs.

- There are 2 standing subcommittees of the CAP2, the Preclerkship Curriculum Committee (PCC) and the Clinical Curriculum Committee (CCC).
- The PCC includes all course directors in the first 2 years of the medical school curriculum.
- The CCC includes all clerkship directors of mandatory third- and fourth-year clerkships.
- In addition, all committees include student representatives appointed by Student Council and ex officio members from the Office of Education.
- Four task forces are assigned to review our 6 medical education program objectives. They are charged with reviewing program objectives, identifying measurable outcomes used as evidence that competencies are being met, and monitoring selected program outcomes.
- Task forces report their recommendations biannually to CAP2. Subsequently, CAP2 reviews this information, along with annual course and clerkship evaluations, as a means of overall program evaluation of the curriculum.

See Figure 1—Curriculum governance.

The executive vice dean works closely with the academic departmental chairs; course and clerkship directors; and faculty



**Figure 1** Curriculum governance.

to implement innovations in education, assessment, and evaluation as they pertain to undergraduate medical education.

In 2015, with the rollout of the new curriculum, all preclerkship courses were managed by the Office of Education with course leadership and teaching faculty financially supported both by the Office of the Dean and departmental mission-based funding. The staff of the Office of Education support the course and clerkship directors in all aspects, including organization, outcome-based measures, and peer review. All assessment and academic support are centralized.

### **Education Staff**

- The scope and influence of the Office of Education have expanded over the last 10 years.
- The associate dean for education, along with assistant deans for preclerkship and clerkship education as well as a director for evaluation and research, provide monitoring, management and support of content, delivery, and outcomes for all courses and clerkships. The assistant deans contribute to faculty development, which extends to our affiliates.
- The director of clinical skills supervises the standardized patient program as well as simulation for undergraduate medical education.
- The executive vice dean recently recruited a dedicated education technology expert to facilitate innovations in technology within the curriculum.

- The primary medical education staff and administrative faculty are responsible for undergraduate medical education, and in collaboration with the Office of Student Affairs Center for Academic Success and Enrichment, provide learner support.
- The associate deans for GME and CME report directly to the executive vice dean.

### **Faculty Development and Support in Education**

Faculty development and the recognition of the educational contributions of faculty are an integral part of NJMS. Professional development for faculty as educators and teachers is held on multiple levels and in multiple venues. Centrally, at Rutgers Biomedical Health Sciences there are workshops on academic promotions and teaching assessments. At NJMS, we provide a number of workshops and seminars, which include a faculty orientation series, faculty mentoring and development, GME grand rounds, annual UME education retreats, resident as teachers, and other faculty teaching development initiatives.

In addition, both the dean's office and individual departments support attendance for faculty at regional and national meetings on educational and faculty development. Teaching and/or education activities are part of promotion criteria in all tracks, including teaching, clinical, research, and professional practice tracks. The clinical educator as well as teaching tracks specifically focus on leadership in teaching and scholarship in the field of education.