

## Cells to Society: Next Generation

### Assessment Philosophy

#### Pre-clerkship Phase

The pre-clerkship phase of NxGen is designed to ensure that students acquire the foundational knowledge and clinical skills (both cognitive and physical) necessary to begin clerkship education and to succeed on USMLE Step 1. The phase has four components: Foundations I (Cells to Society; Foundations of Medicine; Cells, Tissues and Mechanisms of Disease; Foundations II (the Integrated Organ Systems, including Microbes and the Immune System, Musculoskeletal and Integument; Gastrointestinal; Mind, Brain and Behavior; Renal; Pulmonary; Cardiovascular; Endocrine-Reproductive; and Hematology), Clinical Performance Development-1 and Social Issues in Medicine. The goals and learning objectives of each element of the pre-clerkship curriculum are available in separate documents.

The purpose of Assessment is to ensure that our students are developing the required level of competence in knowledge, skills and attitudes for the practice of medicine in a supervised setting, i.e., residency. The assessment strategy for each component is listed below. All test items must link to one or more learning objectives.

1. Foundations I: This component of the curriculum provides foundational knowledge and skills required for subsequent organ systems. Foundations of Medicine and Cells, Tissues, and Mechanisms of Disease require a level of basic science knowledge necessary to understand the foundational science that is applicable to clinical medicine.
  - Basic science facts will be assessed in a low-stakes, formative way preferably at the student's own pace of learning. Self-paced computer-based learning modules, out-of-class quizzes and similar activities are ideal for the student to be assured that s/he possesses the fundamental facts and concepts necessary to learn more clinically applicable foundational science. Examples of this content are normal cell structure, membrane structure, ion flux, etc.
  - Foundational science is directly applicable to clinical medicine and may be assessed in a variety of ways, including readiness assurance tests, problem sets, etc. It also may be appropriate for larger ("weekend") formative assessments or summative assessment in which case the test items must be consistent with USMLE formats and most should include a clinical or experimental scenario.
  - Clinical reasoning, principles of ethics, epidemiology and other related material that is clinical will be assessed in formative and summative assessments. The test items will be written to be consistent with USMLE item formats.
  - Self-assessment and peer assessment are required within accountable teams.

## 2. Foundations 2:

- The integrated organ systems should have few additional basic science facts/concepts. Those that are introduced will be assessed as above. This occurs mainly in Microbes and the Immune System.
  - Foundational science is directly applicable to clinical medicine and may be assessed in a variety of ways, including readiness assurance tests, problem sets, etc. It also may be appropriate for larger (“weekend”) formative assessments or summative assessment in which case the test items must be consistent with USMLE formats and most should include a clinical or experimental scenario.
  - Clinical reasoning, principles of ethics, epidemiology and other related material that is clinical will be assessed in formatives and summative assessments. The test items will meet the USMLE standards.
  - Self-assessment and peer assessment are required within accountable teams.
3. Clinical Performance Development-1: The purpose of CPD-1 is for students to learn communication skills, physical examination skills, clinical reasoning skills, presentation skills, basic technical skills and skills necessary for self-directed (“active”) learning. The assessment strategy is listed.
- Faculty mentors assess students’ development over the course of each semester using a rubric designed to assess the stated learning objectives.
  - At the end of each semester (CPD 1 a, b and c), each student will participate in a graded validated OSCE designed to assess the students’ developmental progress toward that level of competency necessary to enter clerkships.
  - Students participate in self-assessment using a rubric.
  - Students participate in peer-assessment using a rubric.
  - Weekly feedback from mentors and peers occurs.
4. Social Issues in Medicine: The purpose of SIM is for students to recognize community resources available to them and their patients who are in need of social supports of various types, and to provide students with an on-site service learning experience. The assessment strategy is below.
- Students are assessed by their level of participation in service learning.
  - Students are assessed through their reflective writing.

## Clerkship Phase

The clerkship phase of NxGen is designed to provide students with core clinical apprenticeships in Medicine, Surgery, Pediatrics, Obstetrics and Gynecology, Family Medicine, Neurology, Psychiatry, Acute and Peri-operative Medicine, and surgical sub-specialties. Students continue to learn clinical facts and to enhance their clinical exam and reasoning skills with an emphasis on diagnosis and treatment of specific common diseases within the various disciplines. Students also continue to review, use, and learn new aspects of foundational science that are directly applicable to patient care. The goals and structure of assessment of each clerkship are the same.

- Frequent informal feedback from faculty and residents is important.
- Formal feedback with the clerkship director occurs mid-clerkship for rotations of 4 weeks or longer.
- Faculty and resident evaluations of students' performance are documented in Oasis.
- An objective formative assessment is given mid-clerkship
- The USMLE "shelf" examinations are required for each applicable clerkship
- OSCE assessments are used to assess the development of students' clinical skills toward the level of competence required for the supervised practice of medicine (graduation).

### Post-Clerkship Phase

The post-clerkship phase of NxGen is designed to provide students with summary activities in health systems, place students in an active supportive role in the medical management of hospitalized patients under appropriate physician supervision and guidance, allow time for research, and to offer opportunities for students to tailor their educational experience to their own interests and career aspirations with guidance of a faculty advisor. Students continue to learn clinical facts and to enhance their clinical exam and reasoning skills; review, use, and learn new aspects of foundational science applicable to patient care. This is also a time for students who may be deficient in their training to gain additional experience. The goals and structure of assessment of all educational activities in the post-clerkship phase are Pass/Fail and are largely narrative. Elective evaluations can be viewed in Oasis.

- Frequent informal feedback from faculty and residents is important.
- Formal feedback with the program or elective supervisor occurs mid-elective for rotations of greater than 2 weeks.
- Students are assessed by their level of engagement.
- Students are often assessed by their ability to select and present pertinent literature.
- Faculty and resident evaluations of students' performance are documented in Oasis.
- OSCE assessments are used to assess the development of students' clinical skills toward the level of competence required for the supervised practice of medicine (graduation) where appropriate, i.e. in the Advanced Clinical Elective.