

Report of the Objectives Committee

A. Educational Objectives

The NYU School of Medicine consistently has been guided in its mission by the statement made in *The Mission of a Medical School*, written by the Faculty of the School early in the last century. According to this prospectus:

“The mission of the medical school is threefold: the education and training of physicians and scientists, the search for new knowledge, and the care of the sick. The three are inseparable. Medicine can be handed on to succeeding generations only by long training in the scientific methods of investigation and by the actual care of patients. Progress in medicine, which is medical research, must look constantly to the School for its investigators and to the patient for its problems, whereas the whole future of medical care rests upon a continuing supply of physicians and upon the promise of new discovery. The purpose of medical school, then, can only be achieved by endeavor in all three directions – medical education, research, and patient care – and they must be carried on simultaneously for they are wholly dependent upon each other, not only for inspiration, but for their very means of success.”

This mission statement has guided pursuit of the environment in which our students are trained, one defined by commitment to the highest level of human achievement in a culture strongly supportive not only of excellence, but also of continual questioning, self-directed development and embrace of diversity of culture and opinion. Within this environment, the School seeks to promote a rich, generative atmosphere in which the faculty understands that the students, as their successors and stewards in society, should not merely replace, but surpass, them in scholarship, research and patient care. At the time of its last LCME self-study, the School elaborated upon its mission statement and defined a series of educational goals reflective of what the institution hopes to accomplish through its educational programs. These goals are responsive to the dominant events and trends that have reshaped and continue to affect medicine in our time. The goals of the NYUSoM, therefore, are to:

1. Develop physician-scholars who combine science and humanism in their approach to the fields of medicine by fostering these characteristics:
 - An understanding of the scientific principles upon which clinical medicine is based and the ethical principles and human values with which it must be practiced;
 - The use of the scientific method for thinking, judgment and decision making in professional endeavors;
 - A command of the core of essential concepts, facts and skills needed for the practice of modern medicine and the understanding that practice must include prevention and be based on evidence whenever possible;
 - A sense of the paramount, fundamental responsibility of caring for patients whose interests must always come before one's own;
 - The recognition of the limits of individual ability and knowledge that will, of necessity, promote interaction with appropriate colleagues;
 - A commitment to a lifetime of continuing education in the disciplines of medicine;
 - The skills necessary for continuous self-education including awareness of the breadth of educational resources and the technologies for their distribution, their appropriate use, their critical evaluation, and the ultimate integration of new information into practice;

- The ability to communicate effectively with, and value the contributions of patients, their families, colleagues and the greater communities we serve;
 - The highest standards of honesty and personal integrity and knowledge of the theories and principles that govern ethical decision making;
 - Knowledge of the variety of approaches to the organization, financing and delivery of health care and an understanding of the complexities that financial considerations may bring to the fiduciary responsibility of the physician for the patient;
 - An understanding of the possible conflicts of interest inherent in various financial and organizational arrangements for the practice of medicine in this era.
2. Provide programs in graduate medical education in a setting of the highest quality of patient care in the specialties of medicine.
 3. Expose our students to our extensive programs for graduate and postdoctoral research training in the basic biomedical and clinical sciences so that, as developing physician-scholars, our students understand the nature of the research that is the basis of both current and future medical practice.
 4. Create, acquire and disseminate new knowledge as the result of fundamental research in the basic biological sciences, in the clinical sciences, in public health, in the delivery of health care, and in the administration of health care. In this regard, we consider it essential to our educational mission at every level that our faculty be engaged in original research of the highest merit, and that our students have every opportunity to participate in research and become physician-scientists whose primary career focus will be original investigation.
 5. Provide the highest level of primary through tertiary care to the extraordinarily diverse populations who receive medical treatment in our community and beyond. We consider the rich diversity of cultures, ethnicity, socioeconomic levels and national origins to which our students are exposed to be a major strength of our program that fosters— through an understanding of these circumstances on human behavior and disease—responsibility, compassion and tolerance.
 6. Offer programs in the Post-Graduate School of Medicine for the continuing education of physicians in the basic and clinical disciplines of medicine as well as in health economics and health policy.
 7. Educate the public on matters of health.
 8. Enrich the education of younger students in grade school through college, especially underrepresented minorities, in order to attract them to careers in biomedical fields.
 9. Foster the development of research collaboration between our faculty and the private sector both to expand our faculty's access to emerging therapeutic technologies and to ensure the transfer of new discoveries and inventions made by our faculty and students to full application in patient care.

The School recognizes that in order to remain true to its mission, it must clearly and specifically connect both that broad mission and its institutional goals to a medical educational program whose trainees meet and, ideally, exceed the expectations of both the medical profession and the public it serves. Therefore, to achieve the aspirations embodied in its mission statement, the School has moved beyond the robust set of specific strategic goals articulated in the *Blueprint for*

the Millennium report of its last self-study to define a comprehensive set of specific objectives that constitutes an “implementation plan” by which those strategic goals can be met. The objectives of the School are specifically linked to the ACGME core competencies, to the individual module and clerkship objectives defined by the Office of Medical Education (OME) in conjunction with each of the module and clerkship directors, and to specific methods of assessment by which attainment of those objectives can be measured. After an intensive, six-month working period, led by Drs. Thomas Blanck and David Roth, a committee of faculty, students and deans drafted the Objectives of the Educational Program of the NYU School of Medicine. These objectives were presented to, modified by, re-presented to and approved by the Dean, Curriculum Committee, module, unit and clerkship directors, Student Council, Council of Chairs, Faculty Council, and Graduate Medical Education Committee, and the House Staff Council.

The Objectives of the Educational Program of the NYU School of Medicine are listed in two formats. Below the objectives are grouped according to their relevance to the six ACGME core competencies. In Appendix ED-1A, the objectives are “cross-walked” to those competencies, the segments of the curriculum in which they are addressed, and the methods by which attainment of those objectives by our students are assessed.

NYU School of Medicine Educational Objectives

1. Medical Knowledge

Before graduation, students must have demonstrated, to the satisfaction of the faculty, knowledge and understanding of the:

- Basic principles of the scientific method and their application to the gathering of medical knowledge and clinical decision-making;
- Principles of epidemiology and biostatistics and the strengths and weaknesses of the study designs used to develop new medical knowledge;
- Basic scientific principles underlying the biochemical, genetic, molecular, and cellular mechanisms that determine the normal development, structure, and function of the body as a whole and its major organ systems;
- Normal psychosocial development of individuals from birth through old age;
- Pathology, pathophysiology, and ecological context of major diseases;
- Biological factors that cause or contribute to genetic, developmental, toxic-metabolic, infectious, autoimmune, neoplastic, degenerative, traumatic, and behavioral disease;
- Nonbiological elements, including access to health care and economic, socio-cultural, and psychological factors, that may contribute to or prolong illness;
- Clinical, laboratory, radiographic, and pathologic manifestations of major diseases;
- Pharmacologic, surgical, and psychologic treatments of common physical and mental disorders and symptoms such as pain, the relative efficacy of therapeutic interventions, and the common adverse effects of therapies;
- Palliative care of individuals with life-terminating illness and management of acute and chronic pain;
- Role of preventive medicine, including nutrition, exercise, and healthy lifestyles, in promoting health and decreasing the risk of disease;
- Epidemiology of common disorders in populations and the approaches to screening for and detecting illness, as well as reducing the incidence and prevalence of disease in populations on a global and local scale;
- Human and systems factors which may adversely affect patient safety.

2. Patient Care

Before graduation, the student must have demonstrated, to the satisfaction of the faculty, the ability to:

- Reason inductively and deductively in solving clinical problems;
- Demonstrate training level-specific knowledge and skills in the core clinical disciplines: internal medicine, obstetrics and gynecology, neurology, pediatrics, psychiatry, surgery, critical care, and ambulatory care;
- Obtain an accurate medical history that covers all essential aspects, including issues related to age, gender, and socio-economic status;
- Perform both a complete and an organ system-specific physical examination, including a mental status examination, where appropriate, in adults, infants, and children;
- Retrieve (from electronic databases or other resources), manage, and utilize biomedical information for solving clinical problems and making clinical decisions;
- Perform routine technical and certain key routine emergency procedures, as detailed in the core clinical curriculum;
- Interpret the results of common diagnostic procedures;
- Identify key clinical data, seek critical pieces of missing clinical information and determine when it is appropriate to act on incomplete information;
- Develop the flexibility to challenge and reformulate an initial assessment as new information is gathered;
- Formulate a treatment plan that demonstrates the ability to express the relative certainties of a differential diagnosis and the relative risks and benefits of treatment options;
- Construct appropriate diagnostic and therapeutic management plans for patients with common conditions;
- Recognize patients with common, immediately life-threatening conditions, and institute appropriate initial therapy;
- Recognize and outline an initial course of management for patients with conditions requiring chronic, ambulatory care.

3. Practice-Based Learning and Improvement

Before graduation, students must have demonstrated, to the satisfaction of the faculty, the ability to:

- Maintain a scholarly approach to medical problems and continually improve one's knowledge and skills through lifelong, self-directed study;
- Recognize uncertainty in clinical decision-making, including the ability to quantify and communicate the degree of certainty associated with specific items of scientific and clinical information;
- Use multiple information sources for problem solving;
- Make decisions based on evidence, rather than opinion, while recognizing the importance of clinical experience and the art of practice;
- Improve performance based on self-reflection, critical self-appraisal, and openness to feedback from others;
- Recognize and accept limitations in one's knowledge and clinical skills and commit to continuously improve one's knowledge and abilities;
- Educate colleagues, students, other health professionals, patients and the general public;
- Demonstrate an understanding of the critical role of research and scholarship in understanding human disease and alleviating human suffering.

- Apply the principles of continuous quality improvement to patient care.

4. Interpersonal and Communication Skills

Before graduation, students must have demonstrated, to the satisfaction of the faculty, the ability to:

- Work with other members of the health care team in a spirit of cooperation and respect;
- Communicate effectively, both orally and in writing, with respect to data gathering, relationship building, and patient education;
- Communicate effectively and compassionately with patients and their families about the evaluation, diagnosis, therapy, and prognosis of disease, and counsel patients in a caring, empathetic, and culturally sensitive way;
- Present scientific and clinical information clearly and cogently, both orally and in writing.

5. Professionalism

Before graduation, students must have demonstrated, to the satisfaction of the faculty:

- A commitment to provide compassionate treatment of patients, with respect for their dignity, privacy, and rights regardless of the patient's disease, prognosis, age, gender, race, sexual orientation, ethnicity, religious, cultural, or health-related beliefs, socioeconomic status, citizenship status, or ability to pay for care;
- Knowledge of the ethical principles that govern the doctor-patient relationship;
- Understanding of the ethical principles that undergird medical decision making, particularly with regard to beginning and end of life issues, genetics, and molecular technologies;
- A respect in all interactions for the patient's privacy, confidentiality, dignity, beliefs, rights, family, and cultural or religious values, even when such values or beliefs conflict with one's own;
- Expression of a professional demeanor in one's work and as a role model for society, including the consistent demonstration of honesty, integrity, and reliability in all interactions with patients, their families, colleagues, and co-workers;
- Awareness of the threats to medical professionalism posed by conflicts of interest inherent in various financial and organizational arrangements in the practice of medicine;
- Awareness of one's vulnerability to stress and the influence stress has on one's ability to care for patients;
- A commitment to place the patients' interests over one's own;
- The ability to recognize and effectively address unethical or unlawful behavior of other members of the health care team and to understand when and how such behavior must be reported;
- The ability to identify and address both self-impairment and impairment of the professional behavior of others.
- The capacity to recognize one's personal reactions to patients and manage those reactions in the patient's interest.

6. Systems-Based Practice

Before graduation, students must have demonstrated, to the satisfaction of the faculty, the ability to:

- Retrieve information by performing database searches and refining search strategies to improve relevance and completeness of retrieved items;

- Use and integrate the data from available information resources and tools, including 1) online databases and other medical internet resources; 2) textbooks and other reference sources; and 3) journal articles;
- Apply the principles of evidence-based medicine to patient care and demonstrate the ability to: 1) identify quality literature; 2) critically appraise written reports for internal reliability, validity and generalizability; and 3) apply data from a population to an individual's patient care;
- Protect the confidentiality of private information obtained from patients, colleagues, and others and demonstrate understanding of and compliance with the Health Insurance Portability and Accountability Act of 1996 (HIPAA);
- Incorporate knowledge of the various approaches to the organization, financing, and delivery of health care, including particular awareness of the needs of the underserved, into clinical decision-making;
- Understand how the system of care in which a physician operates can impact his or her patient care abilities and overall professional development.

Dissemination and Understanding of the Objectives of the School of Medicine

The objectives of the educational program of the NYUSoM have been and continue to be communicated to the faculty, students, house staff and administration in the medical education community through multiple mechanisms. In a letter to the faculty, students, house staff and administration written specifically for this purpose, the Dean of the School of Medicine is announcing the approved institution-wide objectives and directing members of the School of Medicine educational community to the links to these objectives from the School's home page. It should be noted that the Dean's letter strengthens and reinforces the information already disseminated to the faculty, students, house staff and administration through distributed minutes of the Faculty Council, Council of Chairs, Student Council and Student Caucus, Graduate Medical Education Committee and the Curriculum Committee. Hard copy of the objectives was given to incoming members of the Class of 2010 at orientation, and the objectives themselves have been included in the new 2006-2008 Student Handbook.

The objectives were first disseminated through the entities above during the late spring and summer of 2006. The quality of comments and suggestions made by faculty, students, house staff and administration during that initial process suggests a high level of critical understanding of the objectives among those involved in the medical education community. The School, however, fully recognizes the critical importance of fostering a heightened and continuous level of awareness of these objectives throughout the medical community. To ensure this, the objectives will be explicitly discussed with all faculty, house staff, students and administrators at the beginning of each module and clerkship, and as described below, the "congruence" of our educational program with these objectives will be specifically evaluated through the module and clerkship evaluation process centered in the OME.

Utilization of the Objectives as Educational Program Planning and Evaluation Guides

The Objectives of the School of Medicine are the backbone upon which the Office of Medical Education, in conjunction with the Advanced Educational Systems (AES) group, is developing a robust educational program planning and evaluation system. Having specifically cross-walked the School's objectives with the "venues" within the curriculum in which they are addressed and identified the means by which attainment of those objectives are assessed, the School is formulating a comprehensive plan by which to: 1) obtain direct feedback from students, through their web-based module and clerkship evaluations, on how well individual segments of the

curriculum meet relevant educational program objectives; 2) identify areas in the curriculum in which current teaching and learning methods do not meet program objectives, and use that information to direct and prioritize the research and development projects of the AES and the Medical Education and Technology Program; and 3) provide a structural framework for creation of innovative, vertically integrated, “spiral” curricular modules that span undergraduate, graduate and post-graduate educational program needs.

Outcomes

The School’s educational program objectives are now explicitly linked to existing measurements of attainment of knowledge, skills and attitudes by students in the various components of the curriculum (see Appendix ED-1A). Therefore, the high success rate of our students on our internal assessments linked to those objectives, as well as their success rate on external assessments of those competencies, strongly suggest that the educational program is meeting the School’s objectives. The data from each outcome measure that support this conclusion are discussed specifically and in detail below.