Executive Summary

Mount Sinai School of Medicine (MSSM) is seeking initial institutional accreditation from the Middle States Commission on Higher Education (MSCHE). MSSM is currently accredited through its academic affiliate, New York University (NYU). The two schools intend to disaffiliate once MSSM is independently accredited, and at that time MSSM will become a free-standing institution. This Self-Study Report is designed to demonstrate that MSSM meets or exceeds all of the MSCHE Standards for Accreditation.

The MSSM Self-Study, the final stage of a multi-year accreditation application process, commenced after MSCHE voted in 2008 to grant Candidacy Status to MSSM. The Self-Study was conducted in accordance with MSCHE guidelines. As a Candidate institution, MSSM was required to adopt MSCHE’s “comprehensive model” which involved a broad review of the School’s programs, practices, governance, infrastructure and outcomes in order to evaluate compliance with the MSCHE Standards for Accreditation. The major steps of the Self-Study to date have been:

- Preparation of the Self-Study Design
- Creation of a Steering Committee and Work Groups
- Deliberations by Work Groups on their assigned research questions within the context of the MSCHE standards, with periodic updates to and review by the Steering Committee
- Generation of Work Group Reports
- Consolidation of the Work Group reports into a single, cohesive Self-Study Report, with community input on the findings and conclusions

At each stage of the process, Ms. Linda Suskie, MSCHE Vice President, was available for consultation and guidance.

As part of the Self-Study Design process, the Steering Committee identified a number of goals that MSSM sought to achieve through the Self-Study:

- Sensitizing the entire MSSM community to issues that are important to all of us, and to opportunities which will enhance the excellence of our academic programs
- Identifying institutional strengths and weaknesses relative to each accreditation standard and then using this information to formulate recommendations for improvement where appropriate
- Understanding the inter-relationships of our mission, planning and evaluation processes to programs in order to gauge institutional effectiveness

There is universal agreement among participants that these goals have been attained. The Self-Study proved to be a challenging, provocative, introspective and collegial process that prompted us to consider many issues in ways we might not otherwise have viewed them. It revealed much that we can be proud of, as well as areas in which we can do even better.

A great deal of evidence was amassed to confirm that MSSM satisfies the MSCHE Accreditation Standards. There are an abundance of areas and ways in which the School excels; our review confirmed that MSSM is a well run, intellectually vibrant, programmatically strong and fiscally sound educational institution. The leadership, while gladly acknowledging
institutional successes, continuously monitors performance, asks how we can be even better, and plans for both short and long term growth.

The Self-Study has afforded the MSSM community an opportunity to review our programs, celebrate our strengths and commit to ongoing efforts to enhance our performance. Based on the reports of the Work Groups, the discussions of the Steering Committee and input from our many constituencies, following is a list of some of the major strengths and challenges identified through the Self-Study process.

**Strengths**

- The Strategic Plan has been a major positive force guiding the academic directions of the School. It has generated notable success in the educational, research and clinical programs, allowing us to satisfy our mission in each of these areas.
- Establishment of the Institutes represents a positive change in the governance structure of the School by complementing the traditional academic departments, offering new resources, and fostering interdisciplinary collaboration and cross-fertilization of ideas.
- Reorganization of Board Subcommittees into separate committees for Medical Education and the Graduate School allows for better oversight and more effective focus on the related, but unique issues they both confront.
- As a result of vigorous strategic, programmatic and capital planning efforts, a new building is currently under construction that will help address our considerable need for incremental research, education and clinical space to accommodate current and planned program expansion.
- The School’s strong and intertwined planning, assessment and resource allocation processes support program growth that satisfies our multi-part mission, responds to evolving internal and external factors, and relies on fiscally sound decision-making.
- The growth of our educational programs is proceeding in accordance with the institutional Strategic Plan. Evidence abounds, e.g., in the Graduate School: the realignment of the MTA’s, introduction of PhD in Clinical Research, and CTSA grant initiatives; in the M.D. program: the availability of INSPIRE, PORTAL, LCE, Global Health, and Tailor-Made Electives.
- Establishment of the Clinician and/or Educator Track has produced greater parity across tracks, created new opportunities for career advancement and increased the number of faculty achieving the rank of Professor.
- Development of teaching faculty is a high priority that is visibly aligned with the broader Strategic Plan, as evidenced by the addition of the Institute of Medical Education to the roster of the School’s interdisciplinary Institutes.
- Educational programs are well aligned with our institutional focus on translational science and our institutional commitment to cross-disciplinary learning and teamwork.
- Mount Sinai’s outstanding research and clinical programs, along with the faculty expertise and excellent facilities associated with these programs, create an enriching and stimulating learning environment for our students and postgraduate trainees.
- The integration of support services across academic programs has improved efficiency and effectiveness and enhanced the experience of our students. Through open communication and shared goals the School has created a unified academic calendar,
coordinated orientation processes, and merged disability services, student health and mental health services.

- Effective educational program assessment informs institutional level strategic planning efforts. Examples include the redesign and renovation of facilities to align with the new curriculum, expansion of simulation facilities and programming, and reorganization of Masters programs under the Graduate School umbrella regardless of academic home.

- The profile of admitted students in all programs continues to strengthen (GPA’s, standardized test scores, prestige of undergraduate institutions), while retention and time-to-degree remain positive.

- Strong evidence exists to demonstrate that educational offerings are reevaluated on a regular basis using direct evidence and competency based assessment, and further corroborated through indirect evidence of student learning.

**Challenges**

- We must continue to practice fiscal discipline to remain strong in this difficult economic environment, with particular attention to sources of revenue (grants, clinical income, philanthropy, etc.) and aggressive oversight of expenses.

- Our web site content and navigation require continued improvement in order to facilitate student access to policies and procedures and to enhance first impressions for prospective students.

- The considerable efforts that the School already directs towards assessing programmatic and institutional success must be extended to the evaluation of the many new initiatives that grow from the Strategic Plan.

- While the School has implemented strong policies and programs to address potential conflicts of interest, ongoing vigilance will be needed to respond to evolving internal and external circumstances.

- The well functioning Institute-Department matrix model creates shared responsibility for faculty development and promotion. It will be important to monitor the career trajectory of faculty to verify that appropriate mentoring and other support are provided. Recruitment and retention of talented faculty must remain a high priority.

- Although the new translational science building will provide much needed space for educational, research and clinical activities, ongoing space planning and allocation efforts are essential to ensure that we carry out our programs optimally.

- We must create and implement consistent evaluation metrics to demonstrate the effectiveness of faculty development efforts.

- Enhanced educator productivity measures must be incorporated into the A&P process to support the career advancement of faculty in the Clinician and/or Educator Track. The contributions of both physician and scientist educators must be considered in this process.

- We must continue to strengthen our shared educational infrastructure (student services, registrar, admissions, etc.) to manage the growing enrollment in and complexity across the M.D. and Graduate School programs. Improvements to the technical infrastructure will be essential in providing better shared services. In addition, Instructional Technology upgrades will be evaluated and enhanced to assure that Mount Sinai uses the appropriate tools to support and deliver a quality educational experience.
• Policies and practices relating to issues of professionalism (both ethical and behavioral) among students are not uniform across degree granting programs. We must consider standardizing policies and practices where appropriate and implement a systematic mechanism for handling and monitoring professionalism.

• We must explore opportunities to enhance financial award packages to support students access to education and that the debt burden they carry is, at a minimum, comparative to peer institutions.

• Educational programs are in various stages of implementing detailed programmatic assessment, mapping learning outcomes, and reassessing program goals based on the data. Programs with a professional oversight group (i.e. LCME and CEPH) are more developed than those that do not have external review bodies. Best practices should be identified and utilized across programs as appropriate.

• While all programs employ rigorous methods of planning, implementation and assessment, a different vocabulary exists across programs related to learning objectives, goals, competencies and learning outcomes. We will explore whether standardization of nomenclature is desirable and practical.

In conclusion, there is clear and compelling evidence that Mount Sinai School of Medicine meets or exceeds all of the Accreditation Standards promulgated by the Middle States Commission on Higher Education.
Introduction

Mount Sinai School of Medicine of New York University (MSSM) opened its doors in 1968 under a charter from the New York State Department of Education. The School was created as an academic partner to The Mount Sinai Hospital (MSH), and together MSSM and MSH comprise The Mount Sinai Medical Center (MSMC). The School and Hospital have a close collaborative relationship, and together serve one of the most diverse and complex patient populations in the world. This setting provides abundant opportunities to fulfill our multifaceted mission of excellence in education, research, patient care, and service.

Currently, MSSM supports six degree-granting programs which award seven degrees: MD; PhD in Biomedical Sciences; Master of Biomedical Sciences; Master of Public Health; Master of Science in Genetic Counseling; and the Master of Science and PhD in Clinical Research. A total of 930 students are currently enrolled in degree-granting programs at MSSM. 563 students are pursuing Doctor of Medicine (MD) degrees, 223 are working towards doctoral (PhD) degrees and 144 are earning Masters (MS) degrees. Some of these students are seeking dual degrees, primarily MD/PhD or MD/MPH. MSSM also offers postgraduate research and clinical training, although the degree-granting programs are the focus of this Self-Study Report.

MSSM attracts outstanding students to its highly competitive programs and invigorating academic environment. The student body is academically excellent and also diverse; underrepresented minority enrollment in the MD and PhD programs is 18.3% and 13.6% respectively, and there is a significant international presence in the PhD programs (49%).

MSSM’s academic programs are supported by an extensive infrastructure. The campus is located at the boundary of the Upper East Side and East Harlem neighborhoods of Manhattan. State-of-the-art laboratories provide outstanding research experiences and numerous clinical venues offer superb clinical training opportunities. MSSM finances are strong, with break-even budget projections for the next decade. The library has a large collection and provides broad support to users. A high faculty-to-student ratio allows for close interactions between trainees and mentors. A broad array of student services supports our students’ academic, financial, and social needs.

MSSM ranks 18th among U.S. medical school recipients of NIH research funding and was ranked 22nd in the 2009 U.S. News and World Reports survey of America’s Best Graduate Schools. These are significant accomplishments for a school that is relatively young and still maturing. The appointment of a new MSSM Dean, Dennis Charney, MD, in 2007 has introduced additional energy, fresh perspectives and a broad vision for carrying out our mission. A continuous cycle of planning and assessment results in optimal use of resources to ensure that we remain on a growth trajectory.

In 1998, in parallel with a clinical alliance between MSH and New York University Hospitals Center (NYUHC), MSSM forged an academic affiliation with New York University (NYU). Although connected to NYU through an affiliation agreement, MSSM functions autonomously. MSSM sets its own educational goals and objectives, develops its own curricula, and evaluates its own programs. MSSM faculty are recruited, appointed, and promoted in
In accordance with the standards and policies of our institution, MSSM finances and infrastructure are totally separate from those of NYU and MSSM has a separate Board of Trustees. Educational, scientific, and clinical collaborations between MSSM and NYU have been very limited, although there has been some integration of on-line library resources.

In 2007, Mount Sinai’s Board of Trustees approved the dissolution of the academic affiliation between MSSM and NYU; this decision followed the termination of the clinical relationship between MSH and NYUHC. The Board resolved at that time to establish MSSM as an independent degree-granting institution without a university affiliation. The MSSM- NYU relationship remains cordial, with the leadership of both schools committed to working together to effect an orderly termination of the academic affiliation.

MSSM is currently accredited by the Middle States Commission on Higher Education (MSCHE) through its affiliation with NYU. Obtaining separate institutional accreditation is essential to establishing independent status for MSSM. MSSM will continue to be accredited through NYU until the MSCHE review process is completed.

The separation from NYU also requires that MSSM petition the New York State Education Department (NYSED) for a charter amendment to recognize the School’s independent status and to remove “New York University” from our School’s name. All degree-granting educational programs will be registered with the State Education Department. The NYSED review process will occur simultaneously with the MSCHE review, and the State Board of Regents will effectuate the status changes prior to the MSCHE vote on accreditation.

The MSSM Self-Study was undertaken in accordance with the procedures outlined by the Middle States Commission on Higher Education (MSCHE). As a Candidate institution, MSSM was required to use MSCHE’s Comprehensive Self-Study Model, which entailed an in-depth analysis of our programs, processes, people and infrastructure in order to evaluate our success in addressing all of the MSCHE standards. Because periodic self-evaluation is essential to the health and growth of the School, the process provided an opportunity to critique our performance, identify opportunities for improvement and enhance our ability to approach critical challenges effectively.

Dean Dennis Charney, MD appointed and charged a Steering Committee with oversight of the Self-Study. He assigned David Muller, MD, Dean for Medical Education and John Morrison, PhD, Dean for Basic Sciences and the Graduate School of Biological Sciences, as Co-Chairs of the Steering Committee. Committee membership included representative academic and administrative leaders from the MD Program, the Graduate School, faculty, central administration and the Board of Trustees. The Steering Committee in turn created five work groups organized around the MSCHE standards. In appointing work group Chairs, the Committee sought faculty members whose roles in and knowledge of MSSM would be an asset in group deliberations; each Chair was paired with a co-Chair with targeted administrative expertise relevant to the work group. The Steering Committee assembled work groups with broadly representative membership to ensure that all MSSM constituencies would have a voice in the process. (Membership lists for the Steering Committee and Work Groups are provided as Appendix A) The Steering Committee charged each work group with a set of research questions.
that served as focal points for group discussions. Work group Chairs convened, lead meetings and coordinated preparation of interim and final group reports.

The Steering Committee and work groups relied heavily on existing documentation to review, analyze, and evaluate performance. The MSSM Self-Assessment completed for MSCHE Candidacy Status provided an excellent foundation for beginning the Self-Study – the information assembled and the questions raised in that preliminary process were invaluable in the evidence-based analysis that was central to the Self-Study. Our experience with self-studies for the Liaison Committee on Medical Education, the Council on Education for Public Health and the American Board of Genetic Counseling (which accredit our MD, MPH and MS in Genetic Counseling programs, respectively) provided additional material and insights for the MSCHE Self-Study. Quantitative and qualitative reports that MSSM periodically submits to external agencies and various constituencies were also valuable resources.

Throughout the Self-Study process, input was sought from the larger MSSM community. Work groups were free to invite faculty, administrators and students to attend specific meetings as “consultants” in order to add a special perspective or expertise to deliberations. Updates of the Middle States process were periodically provided at faculty, student and trustee meetings. The draft Self-Study report has been presented to numerous groups to solicit input. Self-Study documents are posted on the School website for the MSSM community.

The research and evaluation conducted by the work groups and the Steering Committee readily demonstrates that MSSM meets or exceeds all of the MSCHE Standards for Accreditation. Detailed descriptions and supporting evidence of compliance with each standard comprise the majority of the Self-Study Report, and an analysis of critical strengths and weaknesses is provided in the conclusion.

The draft Self-Study Report will be presented to the Board of Trustees in April 2010. A visit by the Evaluation Team Co-Chairs is scheduled for March 2010 and a full site visit will take place in July 2010.
Standard 1: Mission and Goals

The Mount Sinai Mission Statement (Appendix B) addresses six broad areas: patient care, education, research, scholarship, community, and workplace. There is enormous overlap among these areas, and none can stand alone. Education is both a discrete element in the Mission Statement and a recognizable force within each of the other parts of the mission statement; every component of the mission contributes to the success of our educational endeavors. The Mission Statement, approved by the Board of Trustees, clearly expresses our commitment to excellence in all six areas, and is the foundation upon which institutional goals and objectives are based.

Mount Sinai School of Medicine (MSSM) programs and activities are designed to advance the fundamental principles expressed in our Mission Statement. The Mission Statement provides a starting point, an overarching structure, and an end point for all that the School seeks to accomplish. Many of our departments and programs have developed statements of purpose that are tantamount to sub-mission statements in that they are compatible with the broad principles of the School Mission Statement but are more specific and directed. Examples include the “mission statements” of the MD Program and the Levy Library. These statements of purpose typically reflect the input and perspectives of the constituencies that are served by those programs.

The MSSM leadership refers to the School’s mission when evaluating institutional success and also when undertaking both short-term and long-term planning. The Dean and Board of Trustees must ensure that the School supports: educational programs that will enable graduates to flourish in their chosen fields; research programs that produce breakthroughs in biomedicine; clinical care that is both high quality and delivered compassionately; scholarly output that is broadly disseminated and respected; community-based initiatives that contribute to the health and well being of the population; and an environment that is conducive to learning and working so that all of the preceding can be accomplished. The faculty and deans in turn must: develop a curriculum that encompasses the knowledge and tools that students will need for their careers; provide expert, inspired teaching that will impart essential information to their students and instill a commitment to lifelong learning; review learning outcomes to ensure that we are meeting our goals; conduct quality research with integrity and creativity; and provide patients and the community with the best possible care. Administrators manage the day-to-day school operations to carry out our mission.

Although the commitments embodied in the Mission Statement are timeless, specific goals and objectives do change in response to dynamic internal and external circumstances. The goals that spring from the Mission Statement are developed with input from multiple constituencies across the institution. As described under Standards 4 and 5, the Dean maintains an ongoing dialogue with both individuals and groups, including deans, department chairs, institute directors and faculty. Student input is often conveyed to MSSM Dean Dennis Charney, MD through the Dean for Medical Education (David Muller, MD) and the Dean of the Graduate School (John Morrison, PhD); additionally, Dr. Charney routinely meets with the Student Council leadership for direct exchanges of ideas and information. Individual Trustees often participate in initiatives focused on specific areas such as educational programs and research, and
the full Board of Trustees is apprised of our goal development and realization on an ongoing basis (see also Standard 4, Governance.)

The Dean employs extensive – and intensive-- evaluation techniques to ensure that the School excels in all parts of its mission (see Standard 7). The Dean exchanges information and ideas with the administrative leadership on successes and difficulties in goal achievement. Assessment of our success in meeting our broad mission and specific goals plays a critical role in our planning efforts, which in turn take into consideration the mission, internal exigencies and external realities, and performance. Our robust planning processes enable the school to be responsive and innovative and sustain a high level of performance. Adaptive flexibility ensures that resources and outcomes are optimized while remaining faithful to the principles of inquiry, service, and quality that have defined MSSM for decades. Short-term and strategic planning are described in more detail in Standard 2.

Communications to faculty, students and staff about the School’s direction are accomplished in a variety of ways. At his annual State of the School address, Dr. Charney reviews School performance in the previous academic year and presents his vision for the coming year and beyond. Dr. Charney periodically sends “broadcast e-mails” to the MSSM community to inform them of new initiatives, plans and major accomplishments. “Accelerating Science, Advancing Medicine” (two volumes to date) and other publications describe the strategic directions that the School is taking and the ways in which it hopes to accomplish its goals. At the program level, the Deans and Directors of each academic program and Department convey goals that are specifically relevant to their own constituencies. Regular publications such as the “Inside Mount Sinai” newsletter and the electronic “Mount Sinai Update” inform the entire Mount Sinai community of the programs, people and plans that affect the institution. These communications are highly valued within the MSSM community.

In summary, the MSSM Mission Statement clearly defines the School’s purpose, its educational, research and clinical focus and its commitment to excellence. The School’s strong and intertwined planning, assessment and resource allocation processes allow for the development of goals that promote program growth and excellence and ensure that we can satisfy all parts of our mission.
Standard 2: Planning, Resource Allocation, and Institutional Renewal

MSSM programs and services are the product of an intricate interweaving of our mission with planning, allocation, and evaluation processes (see also Standards 1, 3 and 7). The MSSM Dean oversees strategic planning efforts which set the direction for the entire School. The Strategic Plan is complemented by shorter term institutional planning and planning at the “local” level by academic and infrastructure departments.

The MSSM Strategic Plan was developed collaboratively by a group of over 100 faculty, administrators and Trustees broadly representative of MSSM’s education, research and clinical enterprises. They assembled into 22 work groups, each with a specific area of focus. The groups conducted a detailed assessment of areas in which the School has already achieved excellence, and identified opportunities for growth and leadership. In reaching their conclusions, the work groups gave careful consideration not only to internal conditions but also to the current and projected external biomedical environment. A senior team used the work groups’ recommendations to develop a framework reflecting each component of the MSSM mission, with particular emphasis on education, research, and patient care. The proposal was presented to the Board of Trustees in November 2005. While the basic principles of the Strategic Plan have remained consistent since its inception, the specific goals and objectives driven by the Plan have evolved based on evaluation of internal performance and external circumstances.

A summary of the Strategic Plan is provided as Appendix C. The central thrust of the Strategic Plan is to intensify efforts in translational medicine and research, thereby facilitating the application, or “translation,” of laboratory discoveries to improvements in medical care. With an overarching focus on translational science, the Plan provides mission-based direction for the educational, research, and clinical enterprises at MSSM. The Plan is compatible with a major National Institutes of Health initiative, the Clinical and Translational Science Award (“CSTA”) program, which encourages the development of innovative, integrated clinical and translational research teams; in 2009 MSSM was selected for a CTSA, thus joining nationwide, federally supported efforts in translational research and education. The translational emphasis of our Plan is also consistent with the recent National Academies Sciences report to Congress recommending as a national strategy greater integration both within biological research and across disciplines in order to capitalize on technological and scientific advances.

A leadership team under the direction of the MSSM Dean engages in extensive ongoing planning and evaluation efforts and oversees allocation of resources. (Resource allocation is determined in a systematic, comprehensive and transparent manner that ensures the appropriate support of our programs, as described under Standard 3.) Planning initiatives are communicated to the MSSM community in many ways. The Dean’s Leadership Board (see Standard 4) is a key forum for Chairs and Directors to engage in collaborative discussion about the School’s directions, and also to receive updates from the Dean. Dr. Charney has met with the faculty of every academic department and with the Student Council (open meetings that all students can attend) to discuss the goals and expectations of our planning processes and to generate input and feedback. Publications describing our planning efforts and the results of those efforts include the “Accelerating Science, Advancing Medicine” Series, weekly hard copy and electronic
newsletters to the MSSM community, and occasional e-mail blasts from the Dean. Many of the
documents are posted on the school website.

Each Dean, Chair and Director is responsible for developing programmatic and
 operational plans and setting goals in his or her area of responsibility that are consistent with the
School’s mission and the Strategic Plan. Performance is measured by success in meeting planned
goals and objectives. Key educational goals emanating from the Strategic Plan include
development of an integrated, outcomes-based curriculum, enhanced translational experiences
and an increase in the class size of the degree-granting programs. The MD program and each of
the Graduate School programs has its own planning processes, with overall assessment
conducted by the relevant Dean. For example, the MD Program Curriculum Committee and the
Executive Curriculum Committee define educational objectives and ensure that the curriculum is
consistent with identified objectives. Two Curriculum Committees perform this function for the
Graduate School. One focuses on the Biomedical Sciences programs and the other focuses on
the clinical research and patient-oriented programs; each has a steering committee that is
advisory to the Dean and addresses educational goals. At the more local level, the degree-
granting programs hold annual retreats to assess the curriculum and other aspects of the
programs in order to plan for the next academic year. Their own program-focused curriculum
committees send feedback to the centralized curriculum committee to facilitate compatibility and
coordination across programs.

Ongoing infrastructure planning and assessment are key to carrying out the School’s
goals and objectives. Financial review of institutional, program, and department performance is
constant; budgets, personnel, facilities, equipment and other resources are continually examined
from a financial perspective to maintain a sound fiscal profile. Plans are modified as necessary
to address actual circumstances. Chairs and department administrators are held accountable for
their approved budgets which they, along with the Finance Department, carefully monitor
throughout the year (see Standard 3).

Capital planning and assessment efforts ensure that the physical plant meets the needs of
the School’s various constituencies. Facilities planning and assessment reflect both the broad
directives of the Strategic Plan and the detailed planning that allows for achievement of strategic
and short-term goals. Each fall the Dean authorizes a formal space planning initiative to create a
master list of projects for the upcoming year; the list is developed through identification of
anticipated needs, analysis of finances, establishment of timetables, and if warranted,
development of preliminary architectural plans.

The annual capital planning and assessment processes tie into the work of a capital
projects group with representatives from the Dean’s Office, Finance, Facilities Management, and
Information Technology that meets weekly throughout the year to monitor and assess projects.
Standard questions in facilities planning and review include: Is each project aligned with the
Strategic Plan initiatives? Is each project supported by a business plan that results in a positive
financial contribution to education, research, and patient care? Is each project cost reasonable
and has it been competitively bid? What is the identified funding source for each project?
Planning for space needs to support curricular changes and to accommodate the increasing size
of the student body are examples of critical efforts undertaken by this group. Another example is
meeting with faculty recruits and reviewing recruitment initiatives to plan for space and facilities needs prior to the arrival of new faculty.

The decision to commit to the 500,000 square foot Center for Science and Medicine (CSM), which is currently under construction, reflects the School’s multi-layered planning process. The Strategic Plan calls for additional space to support translational research expansion and attendant faculty recruitment goals. A planning team was assembled to consider the optimal type and size of space and facilities required; it included representation from the MSSM Dean’s and MSMC President’s Offices, Facilities, Finance and the faculty. The team analyzed the quality and quantity of existing facilities, finances, site options, the potential impact on other programs, and goals and objectives. They also surveyed the research capacity of peer institutions. Based on their deliberations, the group recommended the construction of a new research building. Subsequently, another planning team was created to address financial, site and use issues. The downturn of the domestic and international economies since September 2008 prompted additional review to evaluate the implications of proceeding, and ultimately the decision was made to move forward.

Now, during construction, planning continues to ensure that the specific uses designated for the CSM will optimally meet our evolving needs. For example, the Dean recently invited a peer review by outside academic experts who recommended an expansion of our radiation oncology services, and CSM design changes will be made to accommodate a larger program. Changes in the internal and external environment will continue to inform our decisions on the building details.

The Strategic Plan has already had a profound impact on MSSM’s educational, research and clinical care goals and programs. The impact on the other facets of our mission, i.e., scholarship, community and workplace, are driven by the first three, and the overlap among all of the areas is in fact integral to our success in forwarding our translational agenda. Examples below of some of the changes that have taken place as a result of the Strategic Plan demonstrate its influence on the School’s direction.

In the educational arena, the Strategic Plan and related focused planning efforts have led to goal achievement in many areas. Some major changes are summarized below:

- **Graduate School Training Areas** – The Graduate School has incorporated a translational emphasis into the training of PhD students. Each of the eight multidisciplinary training areas of the PhD program now corresponds directly to one of MSSM’s new translational Institutes. Under consideration are additional PhD training areas which would have a translational emphasis to complement the more traditional basic science curriculum.

- **MD Program Curricular Changes** – As an outgrowth of the Strategic Plan our medical educators are in the implementation phase of “curriculum renewal” project. They began by reviewing the existing MSSM curriculum and surveying the curricula of other medical schools to develop a best-practices approach. Their aim has been to enhance program goals of training medical students who are well versed in both clinical care and research and have a deep understanding of the interplay between the two. Accordingly, they have created and are
currently implementing a more integrated, patient-centered, systems-based and disease-centered learning experience for medical students in both basic science and clinical medicine. The new competency-based curriculum will provide for a more individualized educational approach with increased balance between science and medicine. For example, going forward basic science didactics will be spread across three years rather than concentrated in the first year in order to allow for the introduction of clinical care from the very beginning of their medical school careers; the “Longitudinal Clinical Experience” (LCE) gives students the exposure necessary to translate the science they learn into a clinical context. The assessment tools to ensure that student outcomes reflect the intended objectives are described under Standard 14.

New translational research opportunities for medical students include the Individual Scholarly Project and Independent Research Experience (INSPIRE) program, which gives fourth-year students protected time for mentored scholarly projects, and the Patient Oriented Research, Training and Leadership (PORTAL), a joint degree MD/MSCR option to enable medical students to pursue an additional year of study in order to earn a Master of Science in Clinical Research.

- Center for Patient-Oriented Research, Training, Education, and Development (CEPORTED) – CEPORTED has been created as a unifying structure for the patient and population-based training programs of the Graduate School and the research components of the M.D program. CEPORTED is designed to accomplish translational education goals by coordinating outstanding training and mentoring to support the academic and career development of medical and graduate students of diverse backgrounds as well as of physicians and scientists committed to careers in translational research.

Addressing multiple components of Mount Sinai’s mission, CEPORTED introduces goals, objectives and means geared toward clinical and translational (“C/T”) research. Driven by the broad goal of enlarging the pool of well-trained C/T researchers CEPORTED’s stated objectives include:

- Preparing medical students to be leaders in the next generation of physician-scientists and training graduate students to be leaders in biomedical research -- curricular changes will incorporate strong C/T components and expanded clinical research training opportunities
- Providing multi- and interdisciplinary training opportunities for health professionals to pursue careers in C/T research. Building upon the current Master of Science in Clinical Research program, a PhD in Clinical Research program admitted its first class of students in 2009.
- Supporting career development in C/T research among outstanding junior medical faculty and postdoctoral fellows through the establishment of a Scholars Mentored Career Development Program.

- Student Enrollment Increases – Target enrollment of 560 medical students by 2011 has been accomplished through a phased increase in the entering class size to 140. In the PhD program, the 2009 entering class is comprised of 30 students. The size of the graduate student body will grow as faculty recruitment intensifies with the development of the translational Institutes; an additional 60 to 80 students are projected over the next decade.
across all five years. Infrastructure planning to accommodate the larger number of students has resulted in more classrooms and dedicated study spaces as described under Standard 3.

In the research arena, the establishment of 15 multidisciplinary institutes is a high-impact outgrowth of the Strategic Plan (an immediate impact has also been felt in education, as described above). The institutes are designed to complement the 33 academic departments that are central to the School’s educational, research and clinical activities. Fourteen of the institutes have either a disease-centered focus or a core technology support role, and the 15th (the Institute for Medical Education) is dedicated to supporting and enhancing faculty teaching. Each institute will provide resources and facilitate cross-fertilization of ideas across disciplines. Dean Charney and Department Chairs work together to identify directors with appropriate expertise and stature to pursue the paths dictated in the Strategic Plan. Some Directors have been recruited to MSSM specifically to lead institutes, while others have been appointed from within the ranks of MSSM’s own renowned faculty. Aggressive faculty recruitment efforts, often conducted jointly by departments and institutes, are bringing new world-class faculty to Mount Sinai. As noted earlier, the alignment of the Graduate School training areas with the institutes will foster student exposure to translational research and will also support growth in the number of graduate students that will parallel the faculty expansion as the institutes develop. The recent elevation of the Institute for Medical Education to institute status will devote resources to the improvement and promotion of teaching faculty in the MD and Graduate School programs.

The third major category of impact addressed in the Strategic Plan is clinical care, which completes the bench-to-bedside spectrum. Clinical departments play a critical role in education in both the MD program and postgraduate training. The core competencies during the first two years of medical school (to be spread over three years as curricular renewal is implemented) are departmentally-based didactic courses. Clinical departments also provide an essential platform for the clinical training component of the medical education experience. Clinical education continues after graduation through department-based residency and training programs. Faculty Practice Associates (FPA), the MSSM physician practice group, has developed goals and objectives that are based on the Strategic Plan’s commitment to ensuring excellence in the provision of clinical services. These goals include: continued development of patient-centered, efficiently-run, professionally-managed services; continued development of a culture of service, so that patient satisfaction matches quality of patient care; operational efficiency initiatives; practice growth; expansion of primary care programs.

The Strategic Plan provides a valuable and influential roadmap for our educational, research and clinical programs. Its motto of “going from very good to great” ensures that we will never become complacent, and will always strive for improvement. The planning framework is conducive to developing goals and objectives that emphasize quality and growth, with a focus on people, processes and outcomes.

The comprehensive ongoing methods for evaluating outcomes relating to the Strategic Plan are described at length under Standard 7. There may be no better encapsulation of our broad success in carrying out the goals of the Strategic Plan than the award to MSSM in 2009 of a prestigious Clinical and Translational Science Award (CTSA) from the NIH (described earlier in this section) to support research, clinical and educational endeavors relating to translational
medicine. This generous grant recognizes the enormous capacity and commitment to translational medicine demonstrated by MSSM, and will provide important support for the continued implementation, expansion and refinement of the School’s translational goals.

There is ample evidence that the Strategic Plan has been a major positive force guiding the academic directions of MSSM, and has generated notable success in all arenas. Enthusiasm and support for the Plan and for the changes it has fostered remain strong. The considerable efforts that the School already directs towards assessing programmatic and institutional success must and will be extended to the evaluation of the many new initiatives that grow from the Strategic Plan.
Standard 3: Institutional Resources

Because student learning is central to every component of the mission, the vast majority of MSSM income and resources support programs that enhance the educational experience. The School has a strong funding base to meet a multitude of needs, and careful consideration of goals and objectives within the context of strategic and short-term planning (see Standard 2) is essential for determining the allocation of resources.

Finances

The annual MSSM budget is approximately one billion dollars. Oversight responsibility for fiscal performance rests with the Senior Vice President for Finance (SVP), who reports directly to the MSSM Dean. An independent audit of School finances is conducted each year. A strong system of financial planning, monitoring, reporting and internal control ensures that the School can carry out its mission and meet financial goals.

The overall institutional budget is determined by senior leadership based on operational and strategic needs, and department budgets are developed within the context of the institutional framework. A formulaic, mission-based budgeting system called CARTS (encompassing Clinical, Administrative, Research, Teaching and Strategic needs) calculates specific funds flow for each department to support the mission. There is a requirement that unrestricted financial operations will at least break-even on an overall basis each fiscal year. Departmental financial resources are monitored on a monthly basis.

For the educational enterprise, the A-R-T and S components of CARTS fund administrative support, research support, faculty teaching services, student services and strategic investments in programmatic initiatives. The teaching (“T”) component specifically allocates tuition revenue to departments based on the teaching efforts of their faculty. Introduced in 2003, T dollars work in tandem with our faculty compensation methodology to provide a powerful incentive for teaching; because faculty compensation is linked to the revenues that individuals generate from their work effort, T dollars represent an important income source for both faculty and their departments. This contrasts favorably with past practices, in which there was no financial reward for teaching and educators often found themselves at a financial disadvantage if they chose teaching over activities with identifiable revenue sources.

The SVP of Finance works with department Chairs and administrators during the annual budget process to review CARTS support for faculty teaching services, course funding, student services, infrastructure, and other aspects of the teaching programs according to formula allocations. Education financial results are reviewed on a monthly basis. If necessary, the SVP meets with the education Deans to review budget performance, discuss changing internal and external circumstances that may have an impact on the budget, and ensure that sufficient financial support is provided to meet the needs of the teaching programs.

The MSSM Dean and the SVP meet with every academic department, institute and infrastructure department each autumn to review plans and needs for the coming year. Budget development in accordance with the CARTS budget methodology is an iterative process that involves sharing of voluminous information between the departments and central administration.
Approved budgets are carefully monitored on a monthly basis throughout the year and Chairs
and Directors are held accountable for their financial results according to the approved budget.
Finance staff is always accessible for budget planning as well as for ongoing assistance during
the year, so a system which might otherwise be quite difficult is generally collaborative and
productive.

The Financial Oversight Committee is chaired by the SVP and includes the Dean for
Operations, the Dean of Clinical Affairs, and the MSSM Dean as necessary (depending on the
financial issues being discussed). This committee meets weekly to assess and monitor
operational and financial performance in light of School financial goals, and develops corrective
action plans as necessary. The SVP also meets weekly with the Dean and CEO to review fiscal
issues and to plan strategies for the short and long term; in turn, the Finance Committee of the
Board of Trustees receives a monthly report and School financial statements from the Dean and
performs an important monitoring function.

Since the adoption of the Strategic Plan in 2006, the School has enjoyed favorable
financial results with rapid growth in education, research and clinical programs and strong
philanthropic support. Financial results are enhanced by effective budget controls and faculty
incentives provided by the CARTS budget approach. The 2008 economic downturn and the
impact of stock market performance on the endowment were addressed by a 5% expense
reduction program for the academic departments. With this cost-saving program and an
emphasis on meeting clinical productivity targets and research spending targets, the School
achieved its financial and strategic goals for 2009 and was able to approve a budget for 2010 that
continues the education, research and clinical goals according to the Strategic Plan.

Facilities

Education takes place in virtually all buildings on the Mount Sinai campus. The Dean’s
Office maintains an inventory of all School facilities, monitors utilization, reallocates space to
maximize productivity, and projects and plans for future needs.

Formal classrooms and lecture halls are concentrated on Annenberg 5, 12 and 13.
Excellent research space and resources provide abundant opportunities for both medical and
graduate students to pursue biomedical and related research projects; laboratories are located in
the Annenberg Building, the Ichan Medical Institute and the Atran-Berg Building. Clinical
learning takes place in a variety of settings. On campus, the 1,171 bed Mount Sinai Hospital, the
School’s Faculty Practice Associates and the Center for Advanced Medicine are major clinical
sites; these in combination with a network of affiliated hospitals offer diverse patient populations
and clinical issues that provide a broad range of patient-centered teaching opportunities. Trainees
can even gain clinical experience in the private practice offices of our voluntary faculty.

Mount Sinai owns the Aron Hall Dormitory and 25 apartment buildings which together
offer 1,712 housing units within walking distance of the campus. All medical and Ph.D.
graduate students are guaranteed access to institutional housing and the vast majority take
advantage of this opportunity. Expensive real estate costs in New York City pose challenges for
the faculty and postdoctoral trainees who do not have priority access for Mount Sinai housing, and the School has addressed the needs of these groups in two key ways: by offering housing loans to faculty recruits relocating to New York; and by entering into master leases with local apartment buildings to secure affordable housing. These strategies have proven effective.

A capital projects group with representatives from the Dean’s Office, Finance, Facilities Management, and Information Technology meets regularly to monitor and assess needs and to review projects. All capital projects are identified, planned and implemented through a close collaborative effort among the capital projects group members and the relevant user groups. An annual schedule that sets priorities for renovation and construction projects relating to education is included in all budgets and in philanthropic initiatives, and are based on identification of anticipated needs, financial resources and timing. Student input may be solicited, as when student and faculty representatives participated in focus groups which informed the recent renovation of the library. The planning process for the 500,000 square foot Center for Science and Medicine building was described at length under Standard 2.

In the last five years, capital projects focusing on educational needs have included: upgrades of classrooms, labs and lecture halls on Annenberg 12 & 13; creation of dedicated Graduate School classrooms on Annenberg 5; relocation and upgrade of medical education administrative space on Annenberg 13; renovation of graduate school administrative offices on Annenberg 5; creation of a dedicated classroom for the PhD in Clinical Research, MSCR and MPH programs in the recently completed Center for Advanced Medicine building; and renovation of the library to provide more classroom and study spaces and improved IT capabilities. The Center for Science and Medicine, currently under construction, will provide additional space for learning. The student enrollment increases and small-group learning emphasis outlined in the Strategic Plan were incorporated into space planning efforts, and those needs have also been accommodated in the projects noted above.

Faculty are assigned space based on their productivity, and benchmarks are well defined and publicized. Research density targets (extramural funding per square foot of laboratory space) are important measures for providing additional space to successful investigators and downsizing the laboratories of less productive researchers. MSSM currently has the second highest research density level of all U.S. medical schools, confirming that this is an effective approach to maximizing the use of our research space. Rapid growth resulting from implementation of the Strategic Plan has pushed research space occupancy to 94%. We are currently exploring leasing off-campus space for funded investigators until completion of the Center for Science and Medicine (target occupancy 2012) to enable growth efforts to remain on course.

Clinical faculty productivity is examined in part based on relative value units, and space may be reassigned accordingly. Faculty practice space is now close to capacity, and the Dean has charged an ad hoc committee with exploring options such as space reallocation, relocation of back offices to off-campus locations, expansion, and leasing. The Center for Science and Medicine will create approximately 40,000 square feet of additional practice space for the FPA.
Personnel

Approximately 1,800 full-time faculty and 1,900 voluntary faculty support the activities of Mount Sinai School of Medicine. The degree-granting programs are taught almost exclusively by full-time faculty, and these full-timers also teach in postdoctoral clinical and research settings; 99% of the full-time faculty have doctoral degrees, primarily PhD or MD degrees. The high faculty-to-student ratio furnishes sufficient teachers for didactic settings, provides ample opportunities for students to interact with faculty whose clinical or research interests match their own and ensures personalized learning experiences. Because the vast majority of educators are full-time employees, their primary commitment is to Mount Sinai and to academic careers; as such, they are likely to dedicate more effort and energy to teaching and scholarly activities than might part-time faculty with other obligations.

The faculty is complemented by a staff of approximately 2,900. Within the MD and Graduate School programs, administrative staff under the direction of the Deans, Associate Deans and Assistant Deans provide many student support services, as described in Standard 9; they also support the standing committees of the School, e.g., Admissions, Curriculum, and Promotions Committees for the educational programs. In addition to staff whose primarily or sole responsibilities are to the educational programs, there are many staff supporting the research and clinical programs of the School.

Increases in the number of full-time faculty and staff will result from both the MSSM Strategic Plan and our expanding grant portfolio. The Strategic Plan includes aggressive faculty recruitment expectations, and sufficient resources, e.g., compensation, seed funds, facilities, trainees and staff must be made available to support the programs of our recruits so that they can thrive here. During the annual budget process Chairs, Directors, the Dean and the SVP for Finance together determine packages for faculty recruitment. A commitment to create generous resource packages to attract first class researchers and master clinicians has already stimulated expanded translational research and clinical programs and core facilities, with attendant increases in extramural funding and clinical revenues.

Information Resources – The 33,000 square foot Gustave L. and Janet W. Levy Library provides quiet study areas as well as space for collaboration and teaching. It offers a large collection of books and journals (primarily in electronic format) and important reference and database information resources. The library licenses productivity software for faculty and student use including statistical packages, analysis software, Adobe and Microsoft products and security software. Personal computers in the library allow for on-site accessing of the collection, and are also available to teach users how to navigate electronic resources and software. There is a library liaison to the Graduate School and students are assessed on their knowledge of library resources in the first year; medical students’ knowledge is assessed in conjunction with the conduct of a simulated clinical experience.

The Academic Computing division of the library manages the School’s network infrastructure and data storage, provides desktop support and repair, provides electronic mail in MSSM, and handles development and support for the student services system. The entire Library is covered for wireless connectivity to the campus network. WebCT is the learning
management system utilized for web-based course management. Web-Ed holds all course information and is an important teaching and communication tool for faculty and students. Housing Web-Ed in the library has enabled the School to incorporate library functions into daily learning activities; for instance, course reading lists have links to the library’s licensed electronic materials. Beyond traditional course material (class presentations, slides, and clinical care discussion session information), Web-Ed gives students access to general School information, policies, procedures and related forms. In lieu of additional technology, Web-Ed has acted as the main information-sharing resource for students, faculty, and administration. Current technology assessments have identified more efficient systems to assist in the sharing of information, which is discussed further in standards 9 and 11.

During the annual budgeting process the Associate Dean for Information Resources (who is also the Library Director) meets with the Senior Vice President for Finance and the MSSM Dean to review library and information technology plans and needs for the coming year; resources are allocated based on that discussion. Maintaining library resources following our disaffiliation from New York University is an educational priority for the Dean, CEO and Trustees. Because MSSM will incur additional library expenses when shared subscriptions and licenses may no longer be available, senior leadership is developing plans to ensure the continued availability of these essential services and resources. The Associate Dean and SVP are exploring innovative licensing agreements with publishers that will help to maintain resources at a reasonable cost.

Participation by library staff in curriculum committees ensures that library programs are in alignment with curricular goals. The Associate Dean for Information Resources/Library Director and senior staff meet monthly with student representatives from each of the four medical school classes and from the Graduate School to review library programs and services. The student liaisons solicit input from their classmates of issues that need to be shared with the library leadership. The library also uses its on-line newsletter to solicit service and resource requests from the entire MSSM community. Such communication is important for identifying services desired by multiple constituencies. As a member of the Dean’s monthly meeting of senior educational leaders, the Associate Dean for Information Resources has a platform for addressing library needs and the resources required to meet those needs.

Efforts to upgrade educational IT are ongoing based on user feedback and assessment. Integration of multiple wireless services, improvements in classroom technology, additional online student services and upgrade of the School website are in various stages of planning and implementation. Launching of the new website is anticipated next month and will feature more user-friendly navigation, a more robust architecture and more frequent postings of new content.

Information resources to support our infrastructure have been expanding to meet the needs of the School. Improvements to MSSM’s on-line financial systems have facilitated access to information, so that at both the department and individual levels monitoring of activity has improved. Similarly, software development advances in personnel transactions have accelerated processing, improved monitoring and eliminated lost paperwork. Currently under development is a project to upgrade and link the databases of a number of administrative areas to enhance our ability to identify and manage potential conflicts of interest. These kinds of improvements make
business processes easier and more reliable, provide more information to allow us to evaluate our performance, and allow us to work more efficiently towards achievement of our goals. The School’s IT development team meets with senior leadership to identify needs and set priorities, and then works with user groups to create systems to meet specific needs. Needed improvements to instructional technology and on-line infrastructure are addressed further in Standard 9 and 11.

Allocation of resources at the department level is determined in much the same way as at the institutional level, with many of the same metrics employed in the assignment of funding, space and personnel. In this environment, student learning, research and clinical care are ensured generous support that optimizes program development and implementation.

In summary, MSSM has a robust infrastructure to support its multifaceted mission. Resource allocation decisions are based on careful consideration of the School’s mission, the directions outlined in the Strategic Plan, ongoing programmatic needs and levels of resource availability. Broad participation by multiple constituencies ensures appropriate input to the process as well as two-directional communication; as internal and external conditions change, there is flexibility in the system to respond appropriately. The ongoing assessment methodologies – both qualitative and quantitative -- employed by School leadership circle back to the planning processes to ensure effective and to efficient resource allocation based on ample documentation. We must continue to employ these rigorous allocation methodologies and practice fiscal discipline to remain strong in this difficult economic environment, with particular attention to sources of revenue (grants, clinical income and philanthropy) and aggressive oversight of expenses.
Standard 4: Leadership and Governance

MSSM is chartered by the Board of Regents of The University of the State of New York for and on behalf of the New York State Education Department. The MSSM governance structure is defined in its Bylaws. The Bylaws delineate the powers, size, qualifications, selection, and resignation processes of the officers and committees of the Board of Trustees (BOT) and identify the key executive positions in the School, e.g., the Dean, Associate Deans, and Assistant Deans.

Fifty-one members serve on the MSSM BOT. Trustees bring diverse expertise to MSSM in such areas as business, finance, law, communications and information systems, philanthropy, and public service. The Chairman of the Board and the Trustees Committee are responsible for evaluating the governing body. The Trustees Committee periodically reviews the Board composition to ensure that its membership possesses an appropriately wide range of expertise that can benefit the School. New members spend significant time with the Trustees Committee and the Vice Chairs of the BOT in order to learn about the institution and their responsibilities as Trustees.

Nineteen standing committees of the Board of Trustees provide oversight for the academic, fiscal, physical, and clinical functions of the School. This represents a restructuring in 2008 by the Trustees Committee and the Chairman, who determined a need to realign and expand the committee structure. A list of the current standing committees is provided as Appendix D. Of special note are four new committees:

- Medical Education Committee and Graduate School Committee -- These two committees replace the former Academic Affairs Committee, and allow discussions to focus on the specific and often unique needs of the clinical and research education programs. Trustees on these committees meet regularly with senior education administrators to review the academic directions of the School.
- Research Committee – This committee focuses on expansion of MSSM’s research programs and other issues relating to research. In light of the translational research focus of the Strategic Plan, this committee is integral to ensuring that sufficient resources are in place to carry out the plan.
- Technology Transfer Committee – This committee concentrates on issues relating to the commercialization of discoveries emerging from our research programs. Disseminating the work of MSSM researchers and physician-scientists for the prevention, diagnosis and treatment of disease is an integral part of the School’s mission. Commercialization also presents opportunities to generate important revenue streams for the School.

BOT committees are staffed by senior school administrators whose scope of responsibility is pertinent to each committee’s focus.

MSSM Trustees are subject to the same institutional Business Conflicts of Interest Policy (see Standard 6 and the Faculty Handbook as Appendix E) as are the School’s faculty and staff. This requirement ensures the impartiality of the governing body and in turn protects the academic and fiscal integrity of the institution. The conflicts of interest policy articulates the clear responsibility of individuals to act in the best interests of Mount Sinai and never to use their institutional positions for personal advantage. Each year (more frequently if their circumstances
change) Trustees must disclose their financial interests; any interests that could influence or give
the appearance of influencing their role as Trustees are managed, reduced or eliminated by the
Trustees Committee of the BOT.

The CEO, Dean, and Senior Vice President for Development work closely with the Board
of Trustees to plan and implement philanthropic drives. The Development Committee of the
BOT monitors fundraising, donations, and gifts, and the BOT as a whole plays an essential role
in fundraising efforts. The BOT has approved Mount Sinai’s current philanthropic campaign,
which is aimed at securing resources to finance facilities and faculty recruitment integral to the
Strategic Plan. In addition, individual Trustees often make generous personal contributions in
support of the School.

The Chief Executive Officer (CEO) reports directly to the Board of Trustees and is
responsible for overall operations, management, and regulatory and statutory compliance. In
accordance with the Bylaws, the CEO’s performance is monitored by the BOT. The Dean is the
Chief Operating Officer of the School and his powers and duties are assigned by the CEO,
consistent with the Bylaws. Both the CEO and the Dean are appointed by the Board of Trustees.
More information about these leaders is provided under Standard 5, Administration.

The MSSM Faculty Handbook, www.mssm.edu/forfaculty/handbook describes the
governance structure as it relates to the roles of the CEO and the Dean, the Faculty Council and
its standing committees, the standing committees of the Dean, and the Dean’s Leadership Board.
The School governance structure was critically examined in 2007-08 by an ad hoc Dean’s
Governance Review Committee, comprised of faculty and senior administrators. This committee
recommended a restructuring and revitalization of the Faculty Council which is currently being
implemented. Key changes include the modification of representation formulas and election
processes and the creation of new standing committees to reflect the current needs of the faculty.
We are optimistic that the reconstituted Faculty Council will provide a strong voice for the
faculty, and that the creation of standing committees (Faculty Resources Committee and
Professionalism Committees) and the retention of a successful committee (Faculty Disciplinary
Tribunal) will serve the School well. New Council representatives have been elected and their
first meeting was held recently. At the time of this writing, nominations are in progress that will
lead to an election for Council leadership. Although it is too early to judge the success of the new
Council, the high level of participation across department and institutes and the broad diversity
among elected representatives are promising signs. Evaluation mechanisms will need to be
developed to measure the success of the new Council as a constructive force in the School.

The Governance Review Committee also recommended the creation of a “Dean’s
Leadership Board” (DLB). This body represents a merging of the old Executive Faculty and the
Dean-Chair Group in order to eliminate membership and agenda redundancies. DLB members
universally agree that the new senior advisory group is an efficient and practical change. The
DLB meets up to six times per year. It has reviewed and approved a number of major policies
and issues since its creation, including amendments to the Anti-Harassment Policy, the Conflicts
of Interest in Research Policy, the Policy on Relationships with Outside Entities and the Policy
on Interactions with Vendors and Other Commercial Entities, as well as revisions of the Student
Promotions Committee and Admissions Committee guidelines.
The voice of our students is heard through the Student Council, which represents all of the degree-granting programs at MSSM. The Student Council is designed to “improve all aspects of student life”; a list of student representation on standing committees is provided as Appendix F. The Council as a whole meets monthly and meetings are open to all students. The Council also meets monthly with School administration to communicate information and ideas, and these meetings are an important and valuable mechanism for student input on a wide variety of issues affecting the educational programs. Finally, the Council meets twice annually with members of the newly formed education subcommittees of the Board of Trustees to provide a direct exchange between the students and our Board members.

A highly significant governance change in the past five years was the introduction of the multidisciplinary Institutes, described in more detail under Standards 2, 5 and 7. By complementing the traditional academic departments, offering new resources, and fostering interdisciplinary collaboration and cross-fertilization of ideas, the Institutes are a very positive change. An outgrowth of the Strategic Plan, the Institutes enhance the School’s ability to carry out its mission and achieve excellence in education, research and patient care.

All faculty hold a primary appointment in an academic department (and often secondary academic appointments) and those with research and/or teaching interests consistent with one or more Institute’s goals can also be appointed as members of those Institutes. The well integrated Institute-Department matrix model creates shared responsibility for faculty development and promotion. It will be important to monitor the career trajectory of faculty to verify that appropriate mentoring and other support are provided.

In summary, the MSSM governance structure, including its decision-making processes, is well defined and supports the School’s ability to carry out its mission. We are fortunate to have an active and committed Board of Trustees, and the recent creation of dedicated subcommittees for Medical Education and the Graduate School provides additional opportunities for Trustee focus, input, oversight and resources for the related but unique issues of each program. The new Dean’s Leadership Board is proving to be an effective and efficient body for reviewing policies, making decisions, supporting the Dean and the programs of the School.
Standard 5: Administration

The Mount Sinai leadership structure includes a Chief Executive Officer (CEO) for the Medical Center and a Dean for the School of Medicine. The MSSM Dean has responsibility for all decisions that affect academic policies and administrative operations in the School. The Dean reports directly to the CEO, and the CEO reports to the Board of Trustees (see Standard 4). Both the CEO and the Dean are appointed by the Board of Trustees and are charged with carrying out Mount Sinai’s multifaceted mission.

Dennis Charney, MD has been the MSSM Dean since 2007. Dr. Charney was recruited to MSSM in 2004 as Dean for Research; in 2005 his role was expanded to Dean for Academic and Scientific Affairs, so he was well positioned to take on the challenges of MSSM Deanship. Before joining MSSM, Dr. Charney held leadership positions at the National Institute of Mental Health and Yale University School of Medicine. A world-renowned physician-scientist who specializes in mood and anxiety disorders, Dr. Charney has an impressive scholarly portfolio.

Kenneth Davis, MD, has been the Chief Executive Officer of the Medical Center since 2003. Dr. Davis was appointed MSSM Dean in 2003, and was assigned the additional role of CEO later that year when the CEO left Mount Sinai. Dr. Davis implemented robust oversight mechanisms and a broad culture of corporate accountability that helped to secure Mount Sinai’s ongoing strength in biomedical education, research and patient care. In 2007 the Board of Trustees authorized a return to the traditional model of a separate Dean and CEO to allow for more individualized attention for the School and Medical Center, and Dr. Charney was named Dean. Prior to his appointment as CEO and Dean, Dr. Davis served for 16 years as MSSM’s Chairman of Psychiatry; he has an international reputation for his research on Alzheimer’s disease.

A table of organization is provided as Appendix G. It delineates the leadership network that ensures that the School can carry out its mission. The table of organization reflects three mission-based areas — education, research, and clinical care — as well as the administrative infrastructure that supports them. There is a Dean for Medical Education, and two additional senior deanships have been created during Dr. Charney’s tenure. One is a combined Dean for the Graduate School of Biological Sciences-Dean for Basic Sciences position, which capitalizes on the interrelationship of the research training sites and the basic science departments; because so many graduate students and postdoctoral fellows receive their hands-on research training in basic science laboratories, having a single individual responsible for both the educational and research programs in the basic sciences facilitates collaboration and synergy between the two. The second deanship created by Dr. Charney was Dean of Translational Research; this senior position was designed to oversee the translational goals of the Strategic Plan. In the face of the rapid growth of programs and projects under Dr. Charney, six new Associate Dean positions dedicated to research, education, and resource management have also been created including an Associate Dean for Education and Translational Research Operations who has been appointed to carry out many programmatic details relating to the Strategic Plan. Associate and Assistant Deans report to the Deans in their functional areas.

Efforts to increase and enhance administrative integration across educational programs,
i.e., the Offices of the Bursar, Admissions, Financial Aid, and Registrar, and appointment of a
Director of Student Information Services and Enrollment, are discussed more fully under
Standard 9, Student Services.

Academic leaders possess doctoral degrees in a field of relevance to their areas of
responsibility. Senior non-faculty administrators with infrastructure responsibilities generally
have Master’s degrees.

Thirty-three academic departments are at the core of the School’s educational, research
and teaching missions. Virtually every department conducts research, whether basic science,
clinical, or both. The diverse patient population in The Mount Sinai Hospital has provided many
opportunities for ground-breaking research in biomedicine. Each academic department is headed
by a Chair, and the larger departments also have divisions led by Chiefs.

Consistent with the Strategic Plan, 15 multidisciplinary institutes have been established to
bridge the basic and clinical sciences and foster translational medicine and education. These
institutes are intended to build on the successes of the departments as we develop translational
programs. A Director has been or will be appointed by the Dean to lead each institute. Both
Chairs and Institute Directors have a direct reporting relationship to the MSSM Dean, and budget
and space allocation is determined by the Dean. Faculty may join one or more institutes to
exchange ideas, collaborate on projects and utilize shared resources. Institute members must
have a primary faculty appointment in an academic department, and the institutes broaden
faculty opportunities beyond those available in traditional departments.

The Dean has many avenues for communicating with Chairs and Directors. He meets
with them individually either monthly or bi-monthly to review department/center performance
and goal achievement, to verify that the resources and infrastructure provide appropriate support
and to plan for future needs; additional ad hoc meetings are also common. Dr. Charney also
meets individually with the senior Deans for ongoing review, assessment, and planning. The
Dean’s Leadership Board, comprised of department Chairs, institute Directors, Deans and select
tenured faculty, meets at least six times per year and provides a group forum for information
updates, policy and planning discussion, and performance review. The Dean also holds focused
monthly meetings of senior administrators in four areas: education, research operations,
information technology, and faculty affairs; overlap of some membership across these groups
aids in communication and coordination of programs, plans, and objectives.

In summary, MSSM has an administrative structure that is appropriately organized to
support the School’s education and research programs and carry out our mission. Vibrant and
effective leaders with considerable expertise provide responsible oversight to plan and assess
programs and operations; their high standards and focus on quality ensure that a vibrant scholarly
environment is offered to all.
Standard 6: Integrity

Mount Sinai School of Medicine places great value on offering an honest, open, equitable educational and work environment. A diverse array of policies and processes protect the integrity of the organization and ensure that due process will be followed when problems arise. Policies are often two-directional, emphasizing the responsibilities of the School to individuals as well as the responsibilities of individuals to the School. Policies are readily accessible on the internet and/or intranet.

Key repositories for School policies are the Faculty Handbook, the Medical Student Handbook (see Appendix H), the Graduate Student Handbook (see Appendix I), the MPH Student Handbook (see Appendix J), the Compliance Manual and the Human Resources Manual. The Compliance Department oversees trainee, faculty, and staff conformity with internal rules and external regulatory and legal requirements. Some of the major policies addressing institutional, programmatic and individual integrity are summarized below.

Integrity in Student Programs and Services: Important policies relating to the student experience include the following:

- **Admissions**: Each degree-granting program posts admissions criteria on the web. Every effort is made to handle all applications with respect and impartiality. Graduation and retention information is made available to prospective students when they visit the MSSM campus for interviews (see Standard 8).
- **Course Catalogues**: On-line course listings have replaced hard copy course catalogues in the Graduate School. For medical students, who follow a proscribed series of courses during the first two years of study, descriptive information is available but does not resemble the typical undergraduate or graduate course catalogues. Sufficient courses are offered in all programs to ensure that students can graduate in a timely manner.
- **Student Promotions**: The student handbooks and the School’s website describe requirements and expectations for advancement in the degree-granting programs.
- **Student Discipline**: Student discipline is described in the student handbooks. Cases are handled by individual promotions committees, and operate under explicit guidelines to ensure due process. Standard 14 describes student discipline as well as the expectation of professionalism in greater detail.
- **Student Grievance Process**: Standard 9 includes a description of how student grievances are addressed.
- **Student Handbooks**: Handbooks are posted on the internet and are maintained as pdf documents to allow for easy archiving of different versions; previously the contents of the Handbooks were posted as several website links, or as hard copies, which was not conducive to archiving in a searchable format.
- **Disability Services**: This office is dedicated to providing equal educational opportunities for students with physical, learning and psychiatric disabilities. School policy states that no qualified student will be excluded, denied participation or subjected to discrimination from any program or activity.
Academic Integrity – Specific policies include:

- **Academic Freedom**: The principles of academic freedom are articulated in the Faculty Handbook.
- **Policy on Responsibilities of Authors**: Emphasizes designation and acceptance of authorship responsibility.
- **Policy on Ethical Practices in Research**: Articulates expectations for research integrity and the process for handling allegations relating to the conduct of research.
- **Policies on Intellectual Property**: Innovation in the research and clinical arenas is facilitated through a detailed intellectual property policy and a robust Office of Business Technology Development that supports faculty, staff, and trainee pursuit of pioneering work.
- **Responsible Conduct of Research (RCR)**: Pre-doctoral students in the Graduate School receive mandatory RCR instruction during the fall semester of their first year. Efforts to broaden ethics training to all who are involved in research at MSSM are in progress.

Financial Integrity -- Strong financial controls protect the fiscal integrity of MSSM (see Standards 2 and 3). Mount Sinai’s financial statements are reviewed annually by an independent auditor to ensure compliance with generally accepted accounting principles.

Integrity in Human Resources: Incoming faculty are directed to the Faculty Handbook as the primary, although not sole, source of information on policies relevant to faculty. A recently issued Faculty Orientation Manual was developed to navigate the myriad policies, procedures and resources of the institution.

All new employees are introduced to the Human Resources Policy Manual. Fostering an open, diverse, fair, and respectful climate in classroom and the workplace is accomplished through numerous policies, including:

- **Regulatory Compliance**: The School adheres to federal and local employment laws and regulations, e.g., Equal Opportunity Employment and Fair Labor Laws.
- **Commitment to Diversity**: In addition to adhering to Equal Employment Opportunity regulations, handbooks contain statements confirming the School’s commitment to support a diverse community of students, faculty and staff.
- **Compensation**: The Faculty Compensation Plan is posted on the School website and implementation is overseen by the Dean’s Office. Staff compensation is reviewed by Human Resources to ensure appropriateness based on position, experience, etc.
- **Faculty Appointments and Promotions**: Qualifications, expectations, and processes for academic advancement are described in the Faculty Handbook.
- **Harassment Grievance Board**: The Harassment Policy and enforcement guidelines are addressed at length in faculty, student and postgraduate handbooks.
- **Discipline and Termination**: The Faculty Disciplinary Tribunal follows published guidelines to ensure that due process is served when a faculty member requests a hearing to contest a disciplinary action. Staff discipline is coordinated by the Office of Labor Relations within Human Resources.
- **Performance Reviews**: Annual evaluations of faculty and staff facilitate communications and clarify expectations and can play a role in compensation, promotion, and resource allocation decisions.
• **Code of Conduct**: Multiple constituencies promulgate codes of conduct that define appropriate behavior.

• **Professionalism**: Efforts to educate students, faculty and staff about professional behavior are growing. The establishment in 2008 of an Ombuds Office and the recent creation of professionalism committees in both the school and hospital are raising awareness about the importance of professional conduct, and also provide avenues for recourse when an individual feels that he or she has not been treated in a professional and equitable manner. A more detailed discussion of professionalism across our educational programs can be found in Section 14.

**Conflicts of Interest**: MSSM received an “A” in the 2009 American Medical Student Association (AMSA) PharmaFree Scorecard survey of medical school policies on faculty relationships with industry (see more in Standard 7). A dedicated MSSM Conflicts of Interest Office was established in 2008 to monitor industry relationships and to serve as a resource for the faculty. Avoidance of actual or perceived conflicts of interest is accomplished through multiple policies, including:

• **Policy on Business Conflicts of Interest**: All trustees, paid faculty, and executive staff must disclose their financial interests on an annual basis. As necessary, cases are referred by the Compliance Department to the Business Conflicts of Interest Committee for disposition.

• **Medical Education Disclosure of Financial Interests**: In 2010, the Department of Medical Education implemented a disclosure requirement for all faculty and speakers in the MD program.

• **Policy on Interactions with Vendors and Other Commercial Entities**: Faculty, staff, and trainees must adhere to guidelines regarding appropriate arms-length relations with commercial entities. We recently inserted more restrictive guidelines in the policy for speaking engagements hosted by corporate sponsors.

• **Policy on Financial Relationships with Extramural Entities**: Faculty are subject to a review and approval process for proposed personal financial relationships with external organizations.

• **Financial Conflict of Interest in Research Policy**: This policy helps to ensure that the methods and outcomes of MSSM research efforts are beyond reproach by requiring that research team members disclose financial interests relevant to their research. The MSSM policy, which is more restrictive than the associated NIH policy, requires disclosure of all interests regardless of the amount. Reported interests are referred to the Financial Conflicts of Interest in Research Committee; if a conflict or the appearance of a conflict is identified, the Committee will implement a plan to reduce, eliminate or manage the conflict.

While the School has already dedicated enormous energy and resources to conflicts of interest, ongoing vigilance will be needed to remain responsive to evolving internal and external circumstances.

MSSM leadership engages in an ongoing process of policy review and refinement driven by a commitment to maintain and strengthen institutional integrity. Recent changes have included upgrades in the faculty appointments and promotions methodology, the Conflicts of Interest in Research Policy and the Policy on Interactions with Vendors and Other Commercial Entities, as well as the introduction of a School Professionalism Committee within the Faculty Council. Such changes reflect our emphasis on an honest and open environment that recognizes...
both internal and external forces, and will protect the institution and uphold its core values.

MSSM makes every effort to represent itself fairly and accurately, both internally and externally, whether on the web, at speaking and media events, in publications, or in other settings. The Marketing and Public Affairs Department assists members of the MSSM community in presenting accurate, balanced work. MSSM vigorously meets applicable standards, reporting, and other requirements of the Middle States Commission on Higher Education.

All of these examples demonstrate MSSM’s commitment to the highest ethical standards. Across constituencies -- students, faculty, staff or the public -- MSSM adheres to policies and practices that reflect the open, honest, equitable environment that is so essential to academic freedom and intellectual diversity.
Standard 7: Institutional Assessment

Performance assessment is central to the MSSM management approach. Internally, an ambitious Strategic Plan drives goals that must be achieved with finite resources. Additional pressure is created by external exigencies such as competition for the best students, pursuit of extramural research funding, rising costs and an uncertain economy which together create an extremely challenging environment. Accordingly, the Dean and others stay attuned to performance on an ongoing basis in order to respond effectively and implement changes as needed. Assessment practices are at all times linked to the multi-faceted mission of the School as well as to the planning and resource allocation processes described in previous sections.

Institutional assessment is coordinated by the Dean’s Office. Deans, Chairs and Directors are expected to conduct programmatic and individual performance reviews that feed into the overall analysis. Both internal and external benchmarks are used to evaluate performance.

“Numbers Days” are detailed, mission-based assessment meetings convened by the MSSM Dean and the CEO three to four times per year. The target audience is Department Chairs, Institute Directors and Deans; the focus is on research, clinical and fiscal performance at both the departmental and overall institutional levels. Quantitative data that is collected and reviewed with departmental participation forms the basis for discussion. Comparisons with historical data highlight both positive and negative trends. Performance indicators such as fiscal performance, scholarly output, extramural funding and clinical care patterns are analyzed in the context of particular goals and objectives. (Sample metrics are provided in Appendix K) This review process has important implications for the educational programs because of the essential role that research and clinical care plays in our school.

Each Chair is held accountable for individual departmental performance and the Chairs are collectively responsible for contributing to the ongoing strength of the School. Similarly, each Dean is responsible for the educational, research and clinical programs in his or her own areas. At Numbers Days, successful strategies are shared and plans to address weaknesses are developed; follow-up is provided at subsequent Numbers Days. By presenting objective data and clarifying expectations, Numbers Days help to align departmental performance with institutional goals and objectives. It is a dynamic process that is itself subject to periodic review and revision; over time, new metrics are added or existing ones may be deleted in response to changing circumstances and needs.

At approximately five-year intervals, each academic department undergoes a comprehensive assessment by the Dean which includes an examination of educational endeavors, research, scholarship, clinical care, service, finances, and facilities. A review team composed of faculty from other departments as well as from other schools is assemble to review the data. Because each department has a significant obligation to both the Medical Education and the Graduate School programs, the quality of and commitment to educational activities are scrutinized. For example, the number of courses in which department faculty participate, the number of faculty who serve as course directors, faculty teaching hours, and the number of students training in department laboratories are examined. Using benchmarks developed by established sources, i.e., the National Institutes of Health and the Association of American
Medical Colleges, the Dean correlates the direction and quality of departmental programs with the School’s goals and objectives; this allows for identification of strengths and weaknesses, determination of appropriate resource allocation, and planning for the future. While most department reviews have affirmed the strength of the enterprise, occasionally the reviews reveal a need for significant change. In rare cases, department reviews have led to the consolidation of departments in order to reap academic benefits; this has occurred primarily in the basic sciences, where the increasingly multidisciplinary nature of research – consistent with national trends – has pointed towards closer alignment of previously separate fields. Sample metrics used in department reviews are provided as Appendix L.

Chairs also conduct their own assessments of the educational, research and, if applicable, clinical performance of their own departments and programs. Departments and their faculty are expected to offer outstanding research experiences to medical students, graduate students, and postdoctoral trainees, as well as to provide excellent patient-centered experiences to medical students. Educational evaluations are therefore performed with input from relevant degree-granting programs. When program or faculty assessments reveal that performance falls short of expectations, corrective plans are developed, and progress is reviewed periodically.

An overview of assessment mechanisms that are specifically relevant to the education, research and clinical arenas will demonstrate how MSSM confirms that it carries out its mission successfully. These assessment tools provide essential information that is used for both planning and resource allocation.

Educational Performance

Maintaining a vibrant intellectual environment, promoting excellence and graduating individuals who will make quality contributions to biomedicine and who will be committed to lifetime learning are central goals emanating from the MSSM mission. The Dean for Medical Education and the Dean for the Graduate School of Biological Sciences undertake regular evaluations of the degree-granting programs to ensure that the School succeeds in achieving these goals.

At each stage of the MD program, program objectives and student success are assessed using a variety of outcome measures that include: comprehensive assessment exercises that target student achievement of specific program goals and objectives as well as preparedness for the next phase of training; student evaluation of content and teaching methods; periodic evaluation of faculty; annual review of all courses and clerkships. Graduate students are assessed by faculty committees that determine whether certain targets, or “progress points” required for advancement have been attained; a variety of tools address achievement of core, advanced, critical reasoning and communication skills as well as responsible conduct of research; Program Directors meet at least annually with the Dean of the Graduate School to provide an ongoing assessment of students’ progress and to discuss any programmatic issues that may need to be considered. Each degree-granting program holds an annual retreat to obtain and review feedback on course and program strengths and weaknesses. This information is used to develop recommendations for program revisions. Student outcomes and educational program assessment are addressed more expansively under Standard 11, which describes how the educational objectives of each program are evaluated and Standard 14, which discusses the assessment of student learning.
Some key indicators used in evaluating overall institutional success in meeting the School’s educational mission are summarized below:

- **Student Profiles** – MSSM places tremendous importance on attracting students who are intellectually curious, can excel in our rigorous academic environment, and bring cultural and experiential diversity to the School. Evaluation of the success of the admissions process in meeting the goal of recruiting top students is accomplished through annual analysis of the entering class. GPA, MCAT and GRE scores of incoming students have been steadily increasing, and this year both the MD and the PhD programs have among the highest grades and scores in our history. Ethnic diversity is consistently robust; URM enrollment in the MD program is currently 18.5%, and in the Graduate School 14.8% of matriculants are URM.

For the MD program in particular, the admissions committee looks at more than just grades. The most desirable applicants demonstrate a strong social commitment and interests beyond medicine and science, for such well-rounded individuals tend to make the most compassionate and effective physicians. Success in these areas is judged over time by the quality and quantity of social action committees organized by our students, and the high level of volunteer student outreach activities in the economically disadvantaged East Harlem neighborhood adjacent to MSSM; such activities, provide strong confirmation that our highly intelligent student body is also committed to the greater good. Admissions assessment in all programs also includes analysis of other schools that extended offers to applicants accepted by MSSM and which other schools students favored over MSSM.

- **National Benchmarks** – MD student performance and competencies on national standardized exams (USMLE Steps I, II CK and IICS, NBME shelf exams) are carefully examined to evaluate how well MSSM prepares its students. Scores are also compared with student performance at other schools to gauge our relative success. MSSM Graduate School program data is compared with data from graduate programs in other medical schools as reported by the National Survey of Graduate Faculty and the AAMC in order to detect differences and potential weaknesses.

- **Residency Match** - The “match” of fourth year medical students to residency training programs is an important assessment tool applied at the end of the student experience to determine whether the School is successfully preparing students to compete for top programs. Doctoral student placements after graduation are separately tracked to assess the desirability of our trainees to future employers.

- **Training Grants** - Success in securing training grants from the NIH is an important indicator of the quality of our graduate training programs. In addition to tracking new and renewed grants, we obtain important feedback on our programs (Medical Scientist Training Program/MSTP and other pre-doctoral training grants) through annual progress reports to the NIH and the extensive evaluations conducted every five years for competitive renewals.

- **Quality of Teaching** - Students provide feedback on all courses, and Course Directors also evaluate faculty teaching. Payment for teaching is an integral piece of the budgeting process (see Standard 3), and the scope of courses and the level of faculty involvement are evaluated to ensure appropriate allocation of financial resources. Faculty receive input about their role as educators relative to performance standards.
• **Student Publications** -- Peer-reviewed publications from thesis work constitutes an important indicator of success in training graduate students. As the research experiences of medical students expand, this will become an indicator of success for them as well.

• **Timeframe for Graduation** – The Graduate School tracks the completion rate and median time to program completion for matriculated PhD students. The Dean or Program Director reviews the data and presents it to the Steering Committee of the Graduate School for discussion and evaluation.

• **Graduation Feedback and Post-Graduation Success** - The Dean of the Graduate School or the Program Director interviews all graduating students to assess their career plans and placements in postdoctoral positions. Students who depart without completing the program are also interviewed. Each student completes an Exit Survey, and the data is compiled and presented to the Steering Committee of the Graduate School to identify problems and to consider whether program changes are warranted. The MD program conducts graduation surveys to evaluate the educational experience at MSSM and subsequent career success; additionally, program directors are polled at the end of internship and at the end of their PGY 3 residency year to assess preparedness for residency and to obtain feedback about the competencies of our graduates. Every five to seven years alumni are polled to assess whether they continue to serve the mission of the school (teaching, community service, primary care, critical thinking, etc).

• **Curricular Reform** - For the MD program, progress towards curricular reform with an aim of becoming a national model and implementation of programs described in the Strategic Plan are examined. For the PhD programs, we track the number of applicants expressing interest in a specific training area that links to an Institute; such information allows us to assess the impact of the Institutes on the number and quality of prospective students.

Complementing internal assessments are evaluations of individual degree-granting programs by relevant accrediting bodies. The Liaison Committee on Medical Education (LCME), the accrediting body for the MD program, periodically conducts a broad review that includes examination of the School’s assessment methods. The Council on Education in Public Health and the American Board of Genetic Counseling similarly review their respective programs. Additionally, the New York State Department of Education has a timetable for review and re-registration review for degree-granting programs. These external processes afford additional opportunities for institutional self-assessment and improvement.

For both the Medical School and the Graduate School, the annual budget process provides another vehicle for evaluating success and correcting weaknesses. The new education subcommittees of the Board of Trustees are likely to introduce opportunities for additional assessment of the degree-granting programs.

**Research Performance**

• **Extramural Funding** -- NIH funding is a critical measure of success in research and scholarly endeavors. The NIH is the School’s major source of extramural support for research, and the peer-review process for allocating NIH funding provides an excellent gauge of the quality and value of the School’s research programs. In the latest available data, MSSM ranked 18th in NIH funding among all medical schools in the US. This compares very favorably to our position as 25th nationally as recently as five years ago, and is a testament to the roadmap set by our leadership and the dedication and accomplishment of our faculty, students, research fellows and staff.
In the past year, research awards to MSSM from the National Institutes of Health have increased from $190M to $252M. While this jump coincides with the availability of additional federal funding through the American Recovery and Reinvestment Act (ARRA), it is also attributable to the excellence of our investigators and their research teams, the collaborative endeavors between the departments and institutes and the expanding translational focus of our educational efforts. Our receipt this year of a prestigious Clinical and Translational Science Award from the NIH is valuable confirmation of our commitment to translational research excellence and recognizes the potential contributions that our expertise can make to national efforts.

Grant spending patterns are continually monitored to ensure that investigators appropriately spend their grant money and also to ensure that indirect cost awards – which support the School’s infrastructure -- are received on schedule. Research awards from foundations and industry are also tracked for their contribution to our research success.

- **Research Density** – As described under Standard 3, MSSM employs research density targets to ensure maximal use of our wet and dry laboratory space. Our success in this area is reflected by our status as having the second highest research density (grant funding/net assignable square feet) of any U.S. medical school. This indicator speaks to the enormous pressure we face to secure additional space for our ongoing research efforts, and hence was a major factor in capital planning. MSSM also has the third highest direct research funding per principal investigator among U.S. medical schools.

- **Scholarly Output** - Publications in top journals and textbooks are an indicator of individual achievement, and collectively speak to the success of our faculty in disseminating information and enhancing Mount Sinai’s reputation as a thought leader. Citation factors are an increasingly important tool for assessing performance both at the institutional and individual levels.

- **Research Recruitment** – Examination of faculty recruitment patterns since the launching of the Strategic Plans confirms that we are attracting highly qualified researchers and physician scientists. Young investigators with promising futures as well as experienced scientists and physicians with established research programs and clinical expertise are joining the MSSM faculty to contribute to the translational research efforts.

- **Technology Transfer** – The MSSM Office of Technology and Business Development has reached record levels of patent applications, and some have led to licensed products. Tracking success in this arena is important as a reflection of our ability to translate laboratory discoveries into usable biomedical products. It also represents an important source of potential income for MSSM.

### Clinical Performance

- **Clinical Revenues** - Clinical income generated by Faculty Practice Associates is carefully monitored and provides important information about the volume and nature of clinical activities, as well as about the efficiency of the infrastructure supporting those activities. The steady increase in revenues is attributable to increased volume, higher performance expectations and more efficient space utilization.
Clinical Productivity – Physician productivity is measured in Relative Value Units. RVUs provide feedback to physicians on their level of activity, and also aid Chairs in determining faculty compensation. Institutionally, RVUs help assess overall productivity and identify areas of strength and weakness.

Space Density – Clinical space is a valuable commodity, and tracking utilization is important both for allocation purposes and for institution-wide space planning.

Quality of Care – These are essential indicators for confirming that the quality of care provided by our physicians meets both internal expectations and external requirements. In cases where data falls short of targets, tracking allows for timely corrective action.

**Infrastructure Performance**

Finances -- Ongoing assessment of the fiscal performance of the School is a top priority, because the availability of funds dictates our ability to fulfill our mission and meet strategic goals. Fiscal assessment is conducted using a variety of tools, including:

- **Budgets** – With its rigorous but flexible CARTS budgeting methodology and careful monitoring practices (see Standard 3), the School has remained fiscally strong, achieving a break-even budget despite the economic recession. The imposition of a 5% expense reduction requirement on departments this past year forced closer examination of programs that did not meet our strategic goals and personnel who did not meet productivity expectations. Focusing on selective expense reduction has ensured the continued availability of funds to support strategically important programs and recruit new talent, which in turn will stimulate growth.

- **Sources of Income** – The School generates revenue from multiple sources to support its educational, research and clinical activities. Tracking all sources of funding is essential to measuring success.

- **Business Plans for Recruitment** – All prospective faculty recruitment involving commitment of School resources requires development of a business plan with five-year expense and revenue projections. Assessing actual performance against these business plans allows us to confirm the level of success of recruits and programs so that adjustments can be made as needed.

- **Annual Financial Review** -- All departments are subject to an intensive review undertaken collaboratively by the Dean’s Office and Finance. This assessment serves as the basis for budget planning for the next fiscal year.

- **Financial Improvement Committee** -- On an ongoing basis, a senior operations and finance team monitors departmental and institutional budgets, overseeing corrective actions and ensuring their timely implementation (as described in Standard 3).

Facilities

Mount Sinai invests significantly in its facilities; renovation, upgrade and construction projects are critical to maintaining a high quality physical environment. Under the authority of the Dean’s Office, ongoing internal assessment, often with consideration of external benchmarks, ensures that we provide the appropriate level and quality of physical resources to support all components of our mission. Details of the intertwined planning, assessment and resource allocation methods employed are provided under Standards 2 and 3.

**Personnel:**
• **Recruitment** – Both faculty and staff hires are coordinated through the Dean’s Office. This allows for careful tracking of quality, numbers and costs of personnel.

• **Job Performance** - Programmatic, departmental, and institutional success depend largely on the excellence of our employees, and individual performance assessments are an important part of our culture. Faculty are typically evaluated by their Division Chiefs and/or Chairs and staff are reviewed by their immediate supervisors. Each Dean evaluates the performance of his/her direct-report Deans, Associate Deans, and Assistant Deans. The employee appraisal process affords an important opportunity to examine individual strengths and weaknesses and to develop corrective plans if performance is below expectations. These in turn feed into the collective evaluation of unit, program and institutional performance. Compensation adjustments may be linked to these performance appraisals.

**Information Resources**

Increasing reliance of students, faculty and administrators on electronic systems requires that we monitor technology on an ongoing basis to ensure appropriate availability of resources. Technology assessment for classroom-based learning and student support services has begun with the creation of an instructional technology steering committee comprised of the School Deans, Associate Dean for Operations, Associate Dean for Information Resources, and school representatives. In addition, the committee is exploring appointments from faculty and student ranks. The initial assessment of needs began with documenting the existing technology and benchmarking industry standards for higher education. From that initial evaluation, a significant insufficiency in existing technology was identified. To that, feedback on instructional needs has been gathered from students and has been incorporated into the plan. Additional information from program directors, course directors, and administrative directors is being gathered. As additional information becomes available, the committee, at its quarterly meetings, will continue to reprioritize projects and present them annually as part of the budget process.

Complementing the many assessment measures described above, there is considerable external recognition of institutional achievements that confirms MSSM’s fulfillment of its mission-based commitments to education, research, scholarship, community and workplace. Recent kudos includes:

• **AAMC Spencer Foreman Community Service Award** -- MSSM is the 2009 winner of this prestigious award, which “highlights community service as an important element of the academic mission, and singles out institutions that can serve as examples of social responsiveness on the part of the academic medical community.” MSSM was among the three finalists for the award in 2008.

• **Pride in the Profession Award** - Dr. David Muller, Dean for Medical Education, accepted the American Medical Association (AMA) award for Mount Sinai’s Visiting Doctors Program. Visiting Doctors exemplifies our institutional commitment to respond to the needs of the local community, to provide compassionate care, and to educate our students.

• **U.S. News and World Reports’ Best Medical Schools** – MSSM ranked 22nd among medical schools in the most recent survey. Factors contributing to the ranking include student GPAs and MCATS and NIH research funding, all of which have been increasing at MSSM. Our rapid rise in this ranking (#32 in 2006) confirms that our pursuit of excellence in research and education are reaping tangible gains in stature compared to our peers.
• **Scholarly Productivity Index** – MSSM was ranked in the upper 10% nationwide in the Top Research Universities Faculty Scholarly Productivity Index published by The Chronicle of Higher Education.

• **AMSA Scorecard** – MSSM was one of only nine medical schools in the nation (and the only medical school in New York City) to receive an “A” (the highest possible grade) in both the 2008 and 2009 American Medical Student Association (AMSA) PharmaFree Scorecard survey. This survey, which examines medical school policies addressing faculty relationships with industry, is now in its second year.

• **External Honors and Awards to Faculty** – Over 200 external awards, honors and leadership roles were conferred upon MSSM faculty during the 2008-2009 academic year.

• **Best New Journals** – The Mount Sinai Journal of Medicine was reformulated in 2007 as a journal of translational and personalized medicine. Based on institutional requests and online usage, it ranks among the top new journals launched by publisher John Wiley & Sons in recent years.

• **Environmental Quality Award** – Mount Sinai is a recipient of a 2009 award from the U.S. Environmental Protection Agency. This annual award honors individuals and organizations that have contributed significantly to improving the environment, and specifically recognized our efforts in the management of hazardous products. This award speaks particularly to the scientific and community components of our mission.

• **“Best Doctors” Report** – 179 MSSM physicians in 46 subspecialties were selected for inclusion in the New York Magazine’s annual report, a testament to the clinical excellence of our faculty as an important resource for the New York metropolitan area; among our closest NYC academic medical center competitors, no more than 117 faculty were chosen.

• **U.S. News and World Report Clinical Ranking** – Mount Sinai Hospital was ranked 19th out of 4,861 U.S. hospitals analyzed in the 2009-2010 edition of America’s Best Hospitals Honor Roll, published by *U.S. News & World Report*. All physicians who practice in the hospital have MSSM faculty appointments and are subject to the rigor of our faculty appointment and promotion process. The Hospital’s success in this survey and in all areas is closely tied to the excellence of the MSSM faculty.

• **Work Place Satisfaction** – The Scientist, a journal focusing on the life sciences, recently ranked MSSM among the top 15 medical school workplaces in the United States. In light of our mission-driven commitment to provide a positive work environment, this was a welcomed affirmation of our success.

Taken as a whole, the continuum of assessment processes, from the institutional to the individual, helps to ensure the School’s ability to satisfy its mission and meet specific goals and objectives. As new programs evolve from the Strategic Plan, rigorous assessment measures will also be applied to these initiatives. All of the assessment measures practiced by MSSM will help to ensure compliance with the MSCHE Accreditation Standards.
Standard 8: Student Admissions and Retention

The admission policies of MSSM’s degree-granting programs ensure the enrollment of a student body and the creation of a learning environment that are consistent with the School’s multi-faceted mission. All programs have the common goals of scholarship, clinical care and/or research, and community service, which are in direct alignment with the School’s mission. The programs actively seek to attract a diverse pool of applicants who are high academic achievers with a passion for learning and a commitment to their chosen field of study. Admission characteristics from each applicant pool (grade point averages, standardized test scores, undergraduate college attended, major/previous degree, and extra-curricular activities) are tracked over time. The Programs utilize these data for comparison and evaluative purposes. Each program has defined characteristics and standards which inform admission decisions. These standards are based on an evaluation and understanding of what makes successful graduates of our programs. Appendix M provides a summary of the admissions policies of the programs. This information is available to prospective students through the School’s website, www.mssm.edu.

Each MSSM program has responsibility for evaluating the success of its admissions decisions. For a majority of programs, Promotions Committees track the progress of each student and make recommendations with regard to promotion. When students are at academic risk, this process includes a review of their previous academic records to determine if there were predictors for failure. This information informs regular reviews of program-based admission committees and guides the review of desirable characteristics of future classes.

Standard 14 describes many tools that are used to assess student and programmatic performance, and these are often also valuable for measuring the success of our admissions processes. For example, medical students undergo School-based assessments of competency (both formative and summative) which support the goals and mission of the School; these are supplemented by national standardized exams (USMLE Step1 and 2 and the NBME third year subject test exams) which assure that students’ competencies are consistent with national desired outcomes and also provide a means to compare MSSM students’ performance and competencies with those at other schools. In addition, the residency “match” process provides external validation that students are considered well prepared to continue their training. In the most recent match, 95% of medical students matched and 100% of the class who applied via the National Residency Matching Program were successfully placed. The characteristics of matched students are quantified and tracked, compared against national averages, and used to measure student success. The caliber of the programs to which students have matched is superb. Students’ Residency Program Directors are also surveyed to assure that graduates are well prepared to enter residency.

In the MD program, the Associate Dean for Admissions, as a non-voting member of the Executive Curriculum and Promotions Committees, a member of the Academic and Student Affairs (ASA) Leadership team, and a member of the Medical Education Leadership group, receives ongoing information concerning the success of students and when appropriate, recommends changes to admissions policies and procedures to the Executive Admissions
MSSM offers a non-traditional route to admission to the MD program, the Humanities and Medicine (HAM) track, for students without a conventional “pre-med” background. The program was designed to offer maximum flexibility in the undergraduate years for students to explore their interests in humanities and social sciences at top liberal arts colleges and research universities. The program assures highly motivated undergraduates admission to MSSM upon successful completion of program requirements and graduation from their undergraduate institution. The students who enter the MD program through the Humanities and Medicine Track bring a unique perspective to the study of medicine, adding to the diversity of our student body. However, these students have less preparation in the basic sciences than their peers from traditional pre-med programs.

Along with all applicants, upon enrollment, HAM students’ success is tracked longitudinally to ensure that barriers to success are identified and addressed. Data show that upon graduation, HAM students tend to perform at least as well as students admitted through the traditional route. Yet, for the first two years in basic science courses, a number of HAM students struggle with their coursework. Data addressing success rates for these students is continually tracked and fed into the design of our Summer Enrichment Program (SEP). SEP is a six-week pre-matriculation program offering reviews for physiology, biochemistry, histology, and anatomy with follow-up advising once the academic year begins. The SEP program has been incorporated into the overall curriculum review process to evaluate the success of the students and make the appropriate changes.

In the PhD of Biomedical Sciences program, the process to measure the success of the admissions process centers on evaluating the quality of milestone events in graduate education (i.e., qualifying exams, thesis proposals and final defenses). Every PhD student must pass a qualifying exam in general knowledge relevant to his or her training area and successfully defend a thesis proposal prior to moving on to full-time thesis work and PhD candidacy. Student success rates are shared with the Admissions Committee. In addition, MD/PhD students who are appointed to the Medical Scientist Training Program (MSTP) grant and other PhD students who are appointed to departmental or training area-specific training grants are tracked via an annual progress report to the NIH which summarizes admissions statistics, student publications, attrition, and other important information used to evaluate student success. In addition, the Graduate School programs rely heavily on exit interviews, alumni questionnaires, and student feedback forums to assess whether experiences have met the goals of the student and the mission of the graduate programs.

MSSM is committed to providing our students access to the financial support they require to attain their degree. Experienced financial aid professionals are available to provide advice and guidance. Information about financial aid is posted on the web along with a limited list of organizations and agencies that provide external scholarship opportunities, http://www.mssm.edu/students/financial_aid/. A Financial Aid Committee reviews all available information, assures that determination of need criteria are applied fairly and consistently, considers extenuating circumstances, and maintains adherence to Title IV Program criteria. In
order to assure uniformity of information, a third party, the Need Access Group, is used to collect and report financial information about the student and his/her family. In addition to an “open door” policy in the Office of Student Financial Services, formal and mandatory entrance and exit interviews are conducted with each student who makes use of financial aid to assure he/she possesses a full understanding of financial obligations and methods of effectively managing debt.

The cost to students of the degree-granting programs offered at Mount Sinai School of Medicine varies tremendously. Medical students can accumulate very significant debt for payment of tuition and living expenses over their four years of study. 67% of medical students graduating in the class of 2009 received financial aid through the Financial Aid Office. Of that 67%, 44% received some scholarship aid. The majority of Mount Sinai scholarships are need-based and are automatically awarded to eligible candidates without an additional application process beyond the standard FASFA/Need Access procedure. The Office of Student Financial Services is notified by each department of any recipients of merit-based funding and applies the merit-based aid into the financial aid package. The Financial Aid Office also notifies all matriculating students of scholarship offers received from outside agencies.

Our regular assessment efforts revealed that the cost of attendance to debt ratio for Mount Sinai students is significantly higher than for students at our peer institutions. Mount Sinai students obtain loans to fund a significantly larger portion of their cost of attendance. The average indebtedness of MSSM medical students for their MD degree for the graduating class of 2009 was $137,591. Our data analysis reveals that Mount Sinai’s enrollment profile matches the School’s mission and commitment to diversity; a greater number of students interested in the educational environment at Mount Sinai come from middle class families as documented through the AAMC matriculating survey and Mount Sinai School of Medicine financial analysis. These students typically do not qualify for need-based scholarships and must rely on funding their own education through loans. Although the current situation has not affected retention, the School leadership’s proactive commitment to supporting our students has identified scholarship fundraising as a priority for the Development Office.

Within the Graduate School, MSSM bears the cost of tuition for all PhD students and MD/PhD students; a Medical Scientist Training Program grant from the National Institutes of Health also supports some MD/PhD students. A comprehensive health insurance package and a stipend are also provided by MSSM. During the years dedicated to thesis work, the students are supported through funds provided by their thesis advisor. As long as PhD students remain in good academic standing they will be funded, even if their mentor loses grant funding or leaves the institution; students in these cases are covered by Graduate School funds until accepted by a new mentor and placed on a new grant. The Graduate School ensures that students’ progress towards a degree is not hindered by internal funding issues.

Mount Sinai School of Medicine transfer credit policies are documented in the Student Handbooks and are available to prospective and enrolled students. As a rule, transfer credits are not accepted for medical students, nor are they accepted in Master’s degree programs when course credit was awarded in the pursuit of another academic degree. The School of Medicine will accept transfer students only in exceptional circumstances, i.e., an MD/PhD student whose
mentor has relocated to MSSM. In such cases, there is a standard process to evaluate the course content taken elsewhere against the Mount Sinai curriculum to establish acceptability of transfer credit. Students may also request course waivers. In the exceptional circumstance that a student requests a waiver for course requirement, the student must pass an assessment arranged by the course director to determine the approval of the exemption. An example would be a student who has an advanced degree in Epidemiology and requests a waiver for the Introduction to Epidemiology course. Transfer credit for graduate students is only granted after scrutiny by the Program Director and the Dean of the Graduate School. Parameters for transfer credits in these cases can be found in the Graduate School Handbook.

The School website contains a wealth of information about the various programs, their respective curricula, and the expectations of how students will progress through their program of study. The admissions process for medical, MD/PhD, PhD, and Master in Genetic Counseling students includes an interview and site visit. During the interview day, structured presentations are given which not only outline the timetable for learning outcomes, but also highlight historical student performance. This information has proven to be extremely valuable to prospective students and helps to guide their consideration of MSSM. In addition, a complete description of the curriculum for each program can be found on the School’s website and within each student handbook. Educational formats include didactic coursework and, where appropriate, small group learning, journal clubs, laboratory experiences, and clinical rotations. In all PhD tracks and Master’s degree programs, a thesis is required. A great deal of thought has been given to structuring the curriculum to best prepare students optimally for the next phases of education and ultimately their professional success. Thoughtful sequencing of coursework and practical experience provides proper preparation for important milestone achievements such as the USMLE Step 1 and Step 2 exams required for medical students and the general knowledge qualifying exams, thesis proposal defense, and thesis preparation required for PhD students. Throughout the admission process, students are given information about the curriculum and the expectations of the program they are applying to. Mount Sinai recognizes that it is in our best interest to recruit and admit students who embrace our educational goals and who have the preparation to excel in our environment.
Mount Sinai School of Medicine recognizes the need to provide excellent student support services in order to achieve its mission of training the highest quality physicians, scientists, and healthcare professionals. The School supports the academic progress and the overall well-being of its students through a wide array of support services designed to meet the needs of the students enrolled in all of our programs – MD, PhD, and Masters.

The School ensures that qualified professionals who can appropriately relate to student needs manage and deliver the student support services necessary for the students’ academic and professional success. A well-developed organizational structure, including the Dean for Medical Education and the Dean for the Graduate School, various Associate and Assistant Deans, Directors, and other experienced support staff, oversee our processes and ensure equitable and appropriate provision of student services (see also Standard 5, Administration). The faculty and administrators in those positions have the educational background and the professional expertise to provide the services for which they are responsible (see Appendix N - Student Services at Mount Sinai School of Medicine).

In recognition of the growth in size and complexity of the MD and Graduate School programs along with an identified need to provide enhanced integrated services to all students, a Director of Student Information and Enrollment Services position was created and filled in the fall of 2008. With this organizational change, the School continues to evaluate the integration of school-wide services. Currently the focus on student services seeks to implement enrollment management operational plans with the delivery of quality services. For instance, centralizing the core admissions function into one office streamlines the administrative work and increases the accuracy and availability of admissions data with which to make institutional decisions. In addition, the office will serve as a single, initial point of contact for applicants, simplifying the process for our prospective students.

Beyond institutional evaluations, the careful consideration of student grievances and student feedback provides an assessment tool for the evaluation of our student services. As the direct recipients of support services, students are the best identifiers of the strengths and weaknesses of the offices that provide these services. The Student Council surveys the student body each spring to determine the usefulness and efficiency of student services including the Office of Student Affairs, Registrar, Housing, Student Health, Financial Aid, Cafeteria, Bookstore, and Advising. These results are presented to the leadership of the Medical and Graduate Schools and are used as a guide to enact improvement in these areas. Most recently, feedback from our student evaluations led to a restructuring of the communication channel between residents in the Aron Hall dormitory and the employees who staff the building (Aron Hall houses 85% of our full-time students). Outcomes from the last assessment initiative include a streamlining of maintenance services, creation of monthly meetings between the Real Estate Office, school representatives, and the Student Council, a student led redesign of the room assignment policy, renovations of shared student spaces (TV room, exercise room, laundry room), and the addition of green initiatives throughout the facility. In addition, feedback from student surveys resulted in resources being allocated to upgrade furniture and computers in the Levinson Student Center.
The AAMC Questionnaire and Graduating Class Exit Surveys completed by medical students also demonstrate levels of student satisfaction in various areas. Graduate School representatives to the Student Council meet annually with members of the Graduate School administration to review the Comprehensive Evaluation (a student satisfaction survey) completed by graduate students. Survey results are taken into consideration in planning improvements to the student support services and are reassessed in subsequent surveys.

Beyond qualitative measures of satisfaction, these surveys provide a source of hard data with which to undertake strategic planning for School operations. The AAMC Matriculation Survey and the Graduating Class Survey document the debt level of each student, the status of their loans, and the level of family support. These data, along with internal financial aid reports, assist the MD program administration in determining loan and student aid packages; they also inform long range scholarship fundraising goals.

A Self-Study evaluation of current and proposed Student Services revealed a heavy reliance on paper-based systems or static posting of information to general information files on WebEd (the electronic learning management platform). Historically, MSSM has sought to be student friendly, with open access to student and educational information to support and enhance the educational experience. The lack of 24/7 access to on-line service for our students has been identified as a particular obstacle in meeting this goal. Since students learn differently and the academic demands of each program vary greatly, the importance of offering technologically sound delivery systems for basic self-service processes (registration, financial aid, bill payment, health insurance enrollment, course evaluations, general e-mail communication, and posting of relevant information in a timely fashion via an accessible web portal) is important.

Organizational changes have enhanced communication between the MD and Graduate School programs, all of which have embraced the goal of increasing efficiency and effectiveness in student services and educational offerings. Thus, with shared goals and a willingness to work as one institution, the School has developed a mechanism to integrate and streamline many student support services. The Deans have charged Student Services departmental managers with actively reviewing institutional processes relating to orientation, academic calendar, disability services, integration of handbook policies, emergency management, H1N1 Planning, and academic integrity. Working groups, with faculty/student/administrative representation, have been formed to utilize evaluation data to integrate and upgrade services

To date, integration of services is having a positive impact by introducing operational efficiencies, enhancing services and centralizing access points for students and staff.

Changes gleaned from existing assessment data include:
- Changes in Mental Heath Services – Increased counseling hours, ensure anonymity and free access
- Changes in insurance coverage – Addition of vision and dental options
- Career Counseling -- Expanded in MD program to give additional advising options; and personalized career counseling embedded in each Graduate School program
• Housing -- Streamlined maintenance services; monthly meetings initiated for Real Estate Office, administration and Student Council have resulted in changes based on student/administrator feedback, e.g., room assignment policy, renovation of shared student spaces (TV room, exercise room, laundry), addition of green initiatives, evaluation of security services and doorman positions.

• Upgrade of Instructional Technology Plan -- Based on student feedback and evaluation of the scope of technology services, the School is moving course videotaping from a student-run activity to an institutionally managed process. The Graduate School is adding audio tapes of lectures.

Policies & Procedures for Student Services

The secure maintenance of MSSM student records and a clear policy on the release of student information are crucial in providing an environment where students can trust that their information files are respected and confidential. The Family Education Rights and Privacy Act (FERPA) guides these two initiatives and is strictly upheld by support services staff. Through the Registrar’s Office, ongoing education is provided about FERPA for faculty, administration and staff. Information about FERPA can be accessed from the Medical School and Graduate School Handbooks. Students have the right to access their academic record. The policy for access is also listed in the handbooks with additional information and forms posted on the registrar website.

Strictly maintained and fairly implemented policies uphold the students’ rights to air grievances and have them addressed in a supportive manner (see also Standard 6, Integrity). Specifically, the Harassment Committee addresses allegations of harassment or abuse brought by any faculty, medical or graduate student, house staff officer, or postdoctoral research fellow against any other such member of the School community. Details of the composition of the Committee and the procedures for addressing grievances are found in the Medical Student and Graduate Student Handbooks as well as in the Faculty Handbook.

The institution has created an Office of the Ombudsman. Dr. Barry Stimmel, Dean Emeritus, is the ombudsperson and is available to all students, faculty and staff. Another forum for addressing student grievances is the Student Council (see also Standard 4, Governance), with student representation from both the Medical and Graduate Schools. The Student Council addresses a broad range of concerns including academics, community service, amenities, student health, and social activities. Members of the School leadership are often invited to attend these meetings. In addition, the Executive Committee of the Student Council meets with the MSSM Dean, the Deans of the Medical School and Graduate School, and several Associate Deans to advise leadership of student suggestions and discuss issues of mutual interest or concern. Finally, the Dean for Medical Education, the Associate Dean for Academic and Student Affairs, and the Graduate School leadership hold periodic town hall meetings and focus groups to address areas of student concerns. The Medical School has assigned additional Ombudspersons for medical students; these two faculty members represent another resource to whom students can turn to confidentially discuss issues or potential problems and get advice on how to navigate solutions through the committees mentioned or the school support services.
Standard 10: Faculty

The ability to deliver high quality educational programs depends on qualified and sufficiently numerous faculty to support the institution’s teaching initiatives. In furtherance of its mission, MSSM has a large and talented faculty whose expertise includes but is not limited to: basic, clinical, and translational research; clinical care; epidemiology, public health, community service, and global health; biostatistics; genetic counseling; and biomedical ethics. Many faculty have expertise in multiple areas. Consistent with the Strategic Plan, the School is emphasizing the recruitment of faculty with translational research experience, and is also encouraging all faculty to engage in interdisciplinary collaboration and cooperation.

Of the over 1809 full-time faculty, approximately two-thirds are based on the Mount Sinai campus and the rest are at academic affiliates; regardless of location, they may train students and/or residents and/or fellows. There are also 1775 voluntary faculty who are primarily local clinicians who teach Mount Sinai students, residents, and fellows in their own private practice offices or at Mount Sinai. This large and diverse faculty provides an excellent pool of teachers and course directors, clinical preceptors for the third and fourth years of the MD program, PhD mentors, and Master’s program practicum and thesis advisors. Currently approximately 550 faculty are specifically assigned to teach in one or more of the degree-granting programs. Some faculty teach in multiple degree-granting programs while many others focus their effort on postgraduate training of residents, clinical fellows, or research fellows. With few exceptions, doctoral degrees are required for appointment to the faculty of Mount Sinai at the rank of Instructor, Assistant Professor, Associate Professor or Professor. Many faculty members have additional academic or professional degrees as well as a wide variety of research and clinical interests, perspectives, and expertise. All Mount Sinai faculty are expected to teach in some capacity as a condition of their faculty appointment.

A well-defined faculty appointment, reappointment, promotion, and tenure methodology guides Chairs in identifying appropriate ranks and tracks for faculty. Most departments have their own internal appointment and promotion committees to review the qualifications of individual candidates; all full-time, part-time, and voluntary faculty actions, including tenure, must ultimately be endorsed by a multi-disciplinary institutional Committee on Appointments, Promotions and Tenure, and then approved by the Dean and the Board of Trustees.

In 2003 a significant change was made to the Appointments and Promotions process that relates specifically to Mount Sinai faculty who spend a considerable amount of their effort teaching. At that time, a Clinician and/or Educator Track was created in large part to enable faculty with heavy teaching responsibilities but no independent research program to achieve the rank of Professor. Since 2003, twenty Professors have been appointed in this track (eight of whom are tenured) and forty-five current faculty have been promoted to Professor (twenty-one of whom are tenured) – a clear signal that the introduction of the Clinician and/or Educator Track has opened up career advancement opportunities for our faculty.

Despite success to date, there are opportunities for continued improvement. First, only three faculty with PhD degrees have attained the rank of Professor in the Clinician and/or Educator Track (although several with MD/PhDs have reached the professor level). We need to
be sure that this track is accessible and achievable to basic science faculty as it is intended to be. Faculty who demonstrate high levels of scholarly productivity and particular interest in research training may be nominated by their Program Director or Multidisciplinary Training Area Director for an appointment to the Graduate Faculty and this may be able to be linked in a more direct way to the promotion process.

Further, an opportunity exists to improve the overall methodology used in the appointment, promotion and tenure process for the Clinician and/or Educator Track. Based on the summary report from the AAMC Consensus Conference on Educational Scholarship, Mount Sinai’s Institute for Medical Education (discussed in greater detail later in this chapter) has established a set of criteria for institute membership that is concise, thoughtful and at the core of defining effective and productive educators. This educator portfolio provides more substantive information about an educator’s work than the standard CV, and the criteria for Institute membership are more comprehensive and meaningful than the criteria currently being used by the Committee on Appointments, Promotions and Tenure; thus discussions are underway to incorporate these new standards into their process.

The MSSM Faculty Handbook, which contains policies and procedures with special relevance to faculty, is posted on the web at http://www.mssm.edu/forfaculty/policies/index.shtml. Included in the Faculty Handbook is the School’s important commitment to the principles of academic freedom; MSSM adheres to the same principles promulgated by the American Association of University Professors and the Association of American Colleges. Major policy changes to the Faculty Handbook undergo a review and approval process that includes the Dean’s Leadership Board (Chairs, Directors and select senior faculty) and the Board of Trustees.

Faculty members are evaluated annually by their Department Chair and/or Center Director. Although there is no uniform assessment tool, the Dean does provide targets for major areas of faculty responsibility, e.g., teaching time and effort, research funding, impact of publications, and relative value units (RVUs) for clinical work. Data collected and published by national academic and medical organizations such as the Association of American Medical Colleges (AAMC) and the Medical Group Management Association (MGMA) provide valuable benchmarks against which to compare the performance of Mount Sinai’s faculty.

MSSM is dedicated to the continuous training and development of its faculty in order to provide the best educational experience for its students. This commitment is evident by an impressive group of institutional resources focused on faculty development, including:
Institute for Medical Education (IME)

Founded in 2001, the IME is devoted entirely to the advancement of teaching skills and the support of educators who fuel our teaching community. In July, 2009 the IME was named the 14th strategic institute at Mount Sinai. At that time it joined a complement of institutes already identified as central to the School’s Strategic Plan and dedicated to advancing translational research and education.

Membership in the IME is open to all whose professional identity includes a significant role as a medical/health sciences educator. There are two advanced levels of membership – Fellow and Master Educator – for those who have demonstrated excellence and have made significant contributions to biomedical education. Recognition at both of these levels brings with it the responsibility to actively contribute to the teaching community. This cadre of Fellows and Master Educators is integral to the expansion of the IME’s infrastructure and scope of programs. A rigorous application process for membership, including peer review, is in place.

The IME’s goals are to:

- Develop a cadre of faculty skilled in medical and health sciences education throughout the Mount Sinai community -- The IME addresses the enhancement of teaching effectiveness at the most basic level – the direct transfer of knowledge – and also supports a broader, more holistic approach to developing educators. Towards this end, the IME provides support to assist educators in conducting research, pursuing education grants, developing new courses, creating new programs, and disseminating their scholarly educational activities at local and national venues.

- Promote educational scholarship; encourage and structure opportunities for curricular and teaching innovation for graduate and continuing medical education – IME supports faculty presenting at meetings and attending educational and leadership conferences to enhance their educator skills.

- Sponsor events that highlight the value of education in the life of Mount Sinai and its affiliated institutions, and ensure that teaching excellence is recognized and rewarded by the School
  - Medical Education Grand Rounds is an important initiative sponsored by the IME. These bi-monthly conferences serve as a forum for our educators to exchange ideas about curricular innovations, new teaching theories, research in education, use of technology, evaluation methods and mentorship of teachers and learners. At least a third of the speakers are external, providing fresh perspective on a routine basis.
  - Educational Research Day, an annual event sponsored by the IME, showcases the work of faculty in the areas of educational research with the goal of encouraging faculty to participate in this important arena and providing a stepping stone to regional and national dissemination of their work.
  - Teacher Appreciation Day honors outstanding faculty who embody the principles of excellence in teaching and go beyond the call of duty.
• Mentor teaching faculty in order to foster professional development and academic advancement; and reward the work of our most outstanding educators.

Information on the IME is also available on the web at http://www.mssm.edu/medschool/institute/.

Office of Academic Enhancement and Mentoring

This office sponsors initiatives to foster career development of individual faculty and, simultaneously, provides a mechanism to enhance the quality of mentorship. These initiatives are predominately geared to research-oriented trainees and faculty. Mount Sinai’s firm belief is that better scientists make better teachers; and better teachers are equipped to provide a better environment to mentor our students. The Office of Academic Enhancement and Mentoring conducts development seminars and workshops in the areas of scientific writing, responsible conduct in research, successful strategies for submitting grants, managing dynamic research laboratories and effective teaching and mentorship.

Women Faculty Group (WFG)

WFG is committed to the academic success and advancement of women faculty. As with other faculty development initiatives, effective mentoring plays a central role in WFG educational offerings. In order to provide maximum access to resources, the WFG website at http://www.mssm.edu/wfg was developed to provide summaries of the group’s presentations and activities, as well as many web-based resources dealing with academic advancement and gender based issues. The website serves as a resource for women faculty not only at Mount Sinai but also in biomedicine nationally.

Office for Women’s Careers (OWC)

The success of the WFG led to the establishment of the in 2008 of OWC, whose purpose is to advance MSSM women’s academic careers and address potential impediments to success. The OWC offers opportunities for women faculty to network across departments, serves as an advocacy and mentoring resource, and provides a forum for support, education and discussion. The national standing of this new office is reflected in the selection of its founding director, Sandra K. Masur, PhD, to co-chair a workshop for the Office for Research in Women’s Health of the NIH to develop strategic planning for the next ten years on the topic of Careers of Women in Biomedicine.
Increasing diversity among the MSSM faculty is an important goal and reinforces every element of our mission. Diversity enhances our ability to represent our community and strengthens us as an institution by including a variety of perspectives and experiences. The CMCA was established to organize career development activities that address the needs of minority faculty. The CMCA is a HRSA funded Center of Excellence for Minority Health and is nationally recognized for its capacity to help recruit faculty from groups underrepresented in medicine (URM) and to increase their capability to develop as successful faculty members in academic medicine. It has undertaken institution-wide diversity initiatives, minority health outcomes research, and education and training to improve professional competencies for cross-cultural health care service delivery. The CMCA’s Faculty Scholars Program (FSP) is a comprehensive program that retains and develops URM faculty through mentorship, individualized coaching, and structured activities, which nurtures their success in academic medicine, including in the role of educator. The program is designed to support junior faculty members who demonstrate strong potential to become research scientists and to contribute to the recruitment of new URM physicians.

Consistent with the goals of the Strategic Plan, the Dean created the Minority Health Research Committee in 2007 to develop a sustained focus on minority health research issues in the School. This committee, which works in concert with and includes representation from the CMCA, addresses issues relating to the recruitment of minority research faculty and the creation of a pipeline for bringing underrepresented minority students into research education programs.

MSSM expects that faculty who teach in the classroom, at the bedside or in the laboratory will possess current knowledge in their areas of expertise. Our culture of continuous learning drives our faculty constantly to develop their skills and knowledge as researchers and clinicians. The School sponsors a large Continuing Medical Education (CME) program, departmental grand rounds, extensive on-line access to professional literature, administrative and financial support for travel to conferences, and resources for grant applications, etc. Such support gives faculty a highly sophisticated understanding of the material they teach, thus creating a strong platform for them to excel as educators.

The roles and responsibilities of teaching faculty and the means by which they are articulated vary by program. Some programs have written guidelines to define the standards for teaching and assessment for course directors, who in turn set the structure for all faculty who participate in the learning experience. For example, a detailed job description for course directors who teach in the first two years of the MD program addresses all aspects of that role, from syllabus preparation to resource availability to evaluation and assessment strategies. The “Roles and Responsibilities” guidelines for clerkship directors cover the broad range of responsibilities that include career guidance, documentation, assessment, and faculty development. Another example is the MPH Faculty Handbook, which clearly communicates faculty expectations in teaching and administrative responsibilities.

Curricular oversight in the MD program is effectuated and formalized in the MSSM governance structure through the Executive Curriculum Committee (ECC).
Steering Committee, the Subcommittees for Years 1 & 2 courses, and the Clinical Curriculum Committee (representing Years 3 & 4 clerkships) all report to the ECC. The ECC, under the authority of the Dean is charged with:

- Defining the educational objectives of the School of Medicine and developing a curriculum consistent with these objectives
- Planning the academic calendar and class schedules for the Medical School
- Examining and evaluating all segments of the curriculum
- Allocating curriculum time for all subjects of study
- Conducting a continuing review of curriculum design, course organization, and teaching performance and formulating specific recommendations for improvement
- Submitting recommendations for substantive changes in the curriculum to the Dean for approval

Permanent subcommittees review the content and assess the effectiveness of each component course within its purview, report on an ongoing basis, and recommend curriculum changes to the Executive Curriculum Committee.

The Graduate School has two Curriculum Committees composed of faculty members: one for the Biomedical Sciences programs (PhD, MD/PhD, and MS in Biomedical Sciences) and one for the Clinical Research & Patient Oriented programs (Master of Science in Clinical Research, PhD in Clinical Research, Master of Public Health, and Master of Science in Genetic Counseling). These Curriculum Committees are charged with reviewing and evaluating all courses and curricular issues for existing and new degree-granting programs. The Committees meet monthly and are responsible for reporting the results of their evaluations to the Dean of the Graduate School. In addition, each program has an individual curriculum committee in which faculty who teach, mentor, or provide administrative leadership in the program participate; these committees bring information and suggestions to the appropriate Graduate School Curriculum Committee. Thus, faculty, program administration, students, and the Dean play an integral role in curriculum design and have a strong voice in curricular change.

Faculty satisfaction is taken seriously at Mount Sinai and is periodically measured through an institution-wide survey of opinions. In the past year, significant revisions were made to the survey specifically to measure faculty opinions on teaching. Aspects such as equitable teaching assignments, input into curriculum design, rewarding performance, opportunity to teach, administrative support for teaching and recognition of teaching in career advancement were measured. At the time of the writing of this Self-Study, results from the most recent survey have not yet been tabulated.
Standard 11: Educational Offerings

Mount Sinai School of Medicine offers a rich variety of educational programs leading to advanced degrees. Every degree-granting program at MSSM has a rigorous, well-developed curriculum that is congruent with one or more component of the MSSM mission of clinical care, education, teaching, research, information dissemination, and community service. The School’s commitment to developing new approaches to teaching, facilitating learning, promoting cutting-edge basic research, translating scientific discoveries into improvements in patient care, and identifying new means to enhance the health and educational opportunities of its neighbors shapes the educational experience of its students. At the same time, the curriculum promotes lifelong learning, information retrieval skills, and professionalism.

Medical School

To accomplish its educational goals, the four-year course of study leading to the MD degree is designed to integrate core knowledge with clinical competence while promoting critical thinking skills, problem solving strategies, and clinical reasoning. The ultimate goal is to educate the next generation of physicians to become competent, compassionate, committed physicians, scientists, and advocates. As communicated on our website, “Here the pursuit of excellence is not an end in itself, but a means to improving the human condition. Our unwavering commitment to serve science and society has enabled the School of Medicine to rise to a position of prominence among the country's elite academic institutions.” Medical Education at Mount Sinai is driven by its longstanding institutional mission, which focuses on clinical research and academic medicine- accelerating science and advancing medicine - and the overall goals of superb patient care and service to the community. Driven by the School’s mission, strategic initiatives focus on integrating translational research throughout the curriculum in order to develop physician researchers who can take research from “bench to bedside.”

Throughout the curriculum, the MD program builds on an essential knowledge base which teaches students to develop a capacity for critical evaluation of new information, to promote self-directed learning, and to develop the flexibility to synthesize information into adaptations in practice. First-year students learn the basics of body structure and function at the cellular, tissue/organ, and systemic level, as well as the basics of health policy, cultural competency, and ethical/moral reasoning; at this early stage, they also begin interacting with and learning from patients as part of the Longitudinal Care Experience. Students thus gain the factual grounding to ensure clinical competence and also develop strong patient communication skills and sensitivity to the non-medical factors that contribute to patient well-being. Although the facilitation of knowledge acquisition is the main focus of Year One, there is a strong component of skill development which will be built upon during the continuum of student education, as well as a very strong focus on attitudinal and professional development. The second year curriculum builds on the lessons of the first with a focus on pathophysiologic mechanisms of disease and more advanced training in the patient-physician relationship and development of clinical skills.

The third year curriculum is devoted to a mix of inpatient and outpatient experiences in mentored and team-based learning situations for all medical specialties including Pediatric and Adult Medicine, Geriatrics, Neurology, Obstetrics and Gynecology, Family Medicine,
Psychiatry, and Surgery. Beyond patient-based experiences, additional educational programming includes online interactive cases and other simulation experiences in-line with the goals and objectives of each educational experience. The fourth year curriculum is a more advanced clinical immersion with mentored experiences of advancing responsibility and required elective experiences tailored to students’ developmental, clinical, and research interests. In the last two years of the MD program, basic science principals are intertwined throughout the clinical curriculum to show the clinical relevance of the scientific content in years one and two.

The curriculum has been developed and is evaluated with an eye towards recognizing new challenges in medicine and the importance of adequately training doctors to interpret vast amounts of clinical data and choose among complex treatment and prevention options. In order for students to explore areas of interest which enhance their classroom based learning, the School has transformed what was previously an elective program into a Year 1 & 2 portfolio program. The new program is designed to allow students to create their own educational experiences and to document them in a personal electronic portfolio. This innovation is one which allows for increased self-directed learning opportunities and also allows the school to assess and evaluate extracurricular options which include courses, shadowing experiences, classes at other schools, community service involvement and leadership across the school and greater Sinai community. Similarly, in years 3 & 4, the Tailor-Made Elective Program creates additional opportunities for self-directed learning by allowing students to take ownership in designing individualized clinical, scholarly, or public health related experiences (i.e. health policy, preventive medicine, global health). All of the educational opportunities beyond the traditional pre-clerkship and clerkship courses are supported by an advising system which directs the students to develop and meet their own personal educational needs.

Within the Medical School curriculum, specific course components have been developed with the defined goal of integrating basic science with clinical science in concert with our strategic plan. The Bench to Bedside course, Critical Care Clerkship, Anatomic Radiology Clerkship, and Introduction to Internship Clerkship exemplify such integrated experiences where students are exposed to cases or educational options which portray how basic and clinic science are intertwined throughout the medical field. In addition, new educational initiatives have fostered our mission by further developing a rich and holistic medical education. The most recent educational opportunities added to the curriculum include: Individual Scholarly Project and Independent Research Experience (INSPIRE), Patient Oriented Research Training and Leadership(PORTAL), Longitudinal Clinical Experience (LCE), Global Health, and a restructured Tailor-Made Elective Program. These programs integrate our strategic educational goals of academic research and holistic patient care. For example, MSSM has developed dual degree programs and expanded Scholarly Leave opportunities to allow medical students to enhance their MD degree based on individual career aspirations. In order to incorporate community/patient care as a necessary component to developing the “complete physician,” the School has supported the development of educational opportunities both in and outside the classroom. Our East Harlem Health Outreach Partnership, a student run free clinic for the uninsured and underserved East Harlem residents, serves over 500 patients annually while 85% of the student body participates in the experience. In addition, students have multiple community-focused student organizations, global health options, as well as a number of service
learning opportunities that they may participate in. 100% of the graduating class of 2010 will have engaged in a significant community service endeavor during medical school.

**Graduate School of Biological Sciences**

In the Graduate School, all entering PhD in Biomedical Science or Neuroscience students must fulfill general program requirements that provide a solid foundation in core scientific knowledge, biostatistics, and research methods. MSSM seeks to offer each student a wealth of options to develop an optimal program of pre-doctoral training which meets individual goals in research and academics. In addition to formal classroom learning, students participate in journal clubs, seminars, and laboratory rotations. They are exposed to a wide range of research areas as well as to potential mentors in the Mount Sinai community. At the end of the first year, students select one of eight Multidisciplinary Training Areas (MTAs), each with its own advanced coursework requirements. Students also select a dissertation advisor and begin a relationship that is a critical feature of the doctoral experience. Early in the second year, students must pass their initial qualifying exam, followed within a year by the successful development and defense of a thesis proposal. Every student develops a research project that he or she conducts under the guidance of one or more faculty members; that project culminates in a thesis that is presented and defended. The maximum time allowed for completion of the PhD program is seven years, with an average time to completion of approximately 5.5 years.

The Master of Biomedical Sciences program responds to the nationally recognized need for generalist graduate study in the medical sciences by providing students with the foundation essential for the pursuit of a variety of careers in the health professions. Masters graduates may pursue doctoral programs in research and/or clinical medicine or seek employment in a related field. The first year focuses on mastery of fundamental core concepts in cellular and molecular biomedical sciences, application of statistical principles to experimental design and data analysis, responsible conduct of research, and critical analysis and presentation of primary research literature in the biomedical sciences. Students attend the same core courses as first-year PhD students and are thus integrated into the total academic and social environment of the Graduate School. Significant time is devoted to a laboratory research project that becomes the basis for a Master’s thesis. Advanced elective study takes place in the second year. Students complete the degree requirements in three terms, with an option to continue their research for a fourth term.

The Master of Science in Clinical Research (MSCR) has been established as a two year, part-time program which provides outstanding clinical and postdoctoral fellows, junior faculty, and other trainees (MD, MD/PhD, and “basic science” PhD students) with the knowledge, skills, and experience to launch successful clinical and/or translational research-intensive careers. Students develop competency in clinical research methodologies including: design, implementation, and presentation of clinical research; biostatistical data analysis; epidemiology; research ethics; socio-behavioral health; grant writing; and application of basic science techniques in clinical research. Students complete a combination of formal graduate courses, research practicum, works-in-progress/clinical research seminars, and thesis-related work.

The Master of Public Health (MPH) program trains health professionals and others to apply the principles of public health to health care delivery, research, and population-based health initiatives with an emphasis on community health, health promotion, and disease
prevention. Students undertake didactic coursework, small group participatory activities, a practicum experience, and a Master’s thesis project that provide them with a knowledge base in the core competencies in public health. Students are also able to pursue one of four specialty tracks: Health Promotion and Disease Prevention, Global Health, Outcomes Research, and Environmental and Occupational Health. All students attain the competencies required to apply the appropriate tools to address population health problems through community engagement in a culturally sensitive manner. Service goals involve collaborating on community initiatives to improve health and prevent disease.

Finally, the Master of Science in Genetic Counseling (MSGC) trains individuals to become genetic counselors. The program, which benefits enormously from the resources and expertise of the MSSM Department of Genetics and Genomic Sciences, provides students with the knowledge and skills for board certification by the American Board of Genetic Counseling. Through its curriculum, primarily taught by its Genetics faculty, the program promotes patient care that is sensitive to all cultural and age groups, the pursuit of research in genetic counseling, and the intellectual motivation to create lifelong learners. The program places a major emphasis on clinical rotations, practica, internships and a required thesis.

As part of its strategic growth and focus in translational studies, MSSM has developed a number of options for its students to pursue multiple degrees simultaneously. The prestigious NIH-funded Medical Scientist Training Program (MSTP) allows students to earn both MD and PhD degrees and thus be uniquely poised to embark on careers as physician scientists and leaders in the effort to apply new basic science discoveries to clinical care. Through the MD/MPH track, interested students can complete an MPH during the four years that they attend medical school and use that education to further work in community and/or preventative medicine. Based on student feedback and a program review for CEPH reaccreditation, an additional track was created for students to earn the MD/MPH in five years by including a scholarly year of MPH research and practicum experiences embedded between years 3 & 4.

MSSM, in conjunction with Union Graduate College, also offers a Master of Science in Bioethics. Union is the degree-granting institution and oversees program administration. MSSM faculty teach some of the courses while also providing an on-site skills training and clinical experience. This program, which consists of 12 trimester courses, was recently reviewed by external experts as part of the New York State recertification and as part of Union’s Middle States accreditation process. The review included a two-day visit to observe the Clinical Practicum and the portion of Capstone activities for which Mount Sinai is responsible.

The MSSM Strategic Plan has resulted in the formation of 15 interdisciplinary institutes that provide collaborative research opportunities and teaching enhancement for faculty and also provide shared resource facilities and other infrastructure to support the School’s research, educational and clinical missions (see also Standards 2 and 3). The interdisciplinary groupings of the institutes grew from an analysis of the strengths of MSSM’s academic departments; the interdisciplinary training areas in the Graduate School mirror the institute structure and give students greater opportunity to undertake relevant research projects and study under experts in any number of fields. Not only are opportunities for the graduate students enhanced, but novel faculty collaborations across disciplines also result from cross-mentoring of the students. Such
interdisciplinary research projects often in turn translate into opportunities to garner research funding from new programs from both the NIH and private foundations which focus on translational medicine.

Lastly, our 2007 program assessment of graduate programs resulted in the integration of all graduate programs into a cohesive whole. Prior to 2007, only the Masters and PhD programs in the basic sciences (Biomedical Sciences and Neuroscience) were under the purview of the Graduate School. The Graduate School now includes not only the basic science Master and PhD programs, but also the Masters in Genetic Counseling, the Masters in Public Health, and the Masters and PhD in Clinical Research under its umbrella. The consolidation has resulted in increased opportunities for graduate students to engage in translational research and to cross-register in courses outside of their own program. For example, MD/PhD students are encouraged to include a faculty member from one of the clinical research programs on their advisory committee, and Master’s in Biomedical Sciences students take courses not only in the MD program but also in the MPH or MS in Clinical Research programs. In addition, the creation of the CEPORTED initiative - Center for Patient-Oriented Research, Training, Education, and Development – has been created as a unifying structure for the patient and population-based training programs of the Graduate School and the research components of the MD program. CEPORTED is designed to accomplish translational education goals by coordinating outstanding training and mentoring to support the academic and career development of medical and graduate students of diverse backgrounds as well as of physicians and scientists committed to careers in translational research. In its first full year of operation, CEPORTED initiatives have followed the same evaluative process as all graduate school programs.

Transfer Policies

To uphold the integrity of the educational quality at Mount Sinai, the institution has developed a number of policies to deal with graduate level transfer credit. Unlike undergraduate education, transfer credit at the graduate level is minimal, but does exist. As indicated in Standard 8, credits for graduate courses taken at other institutions may be awarded under certain conditions but must be approved by the Program Director and the Dean of the Graduate School. Approval is based on an analysis of the course content taken at the other institution in comparison to the course content of the related course at Mount Sinai. A full discussion of the policies regarding transfer credit can be found in the Graduate School Handbook. Medical students may be accepted as transfer students only in extremely rare cases with the approval of the Associate Dean of Student Affairs and Dean for Medical Education; these exceptional circumstances are described in Standard 8.

Information Literacy

Mount Sinai School of Medicine values and supports the development of excellent information literacy skills. The Levy Library conducts regular workshops on research tools and maintains a high caliber of research resources. The availability of Library resources is addressed further in Standard 4. Also supported through the Levy Library is the Academic Computing Division. Academic Computing has developed and maintains the School’s learning management system ~ Web-Ed. All courses offered through Mount Sinai have a web presence through Web-Ed (http://webed.mssm.edu/), which has become an integral teaching and communication tool for
The majority of courses have a dedicated website on Web-Ed for posting syllabi, schedules, PowerPoint slides of lectures, bibliographies, and any other materials needed by students; the ultimate goal is to have all courses on Web-Ed. Every course in the MD, PhD, and MPH programs is required to post information on the website regarding course goals and objectives, competencies, assessment methods, and additional resources to frame expected outcomes for learners.

Educational Program Assessment

To ensure that the educational offerings are as strong, current, and comprehensive as possible, MSSM Program Directors, Curriculum Directors, and the administration evaluate programs on a regular basis using a variety of approaches; their findings are integrated into the planning process. Although the Medical and Graduate Schools handle program evaluation in slightly different ways, when students may choose from multiple offerings (e.g., small groups taught under various professors, different lab rotations, clinical electives), comparative evaluations of each offering are undertaken to ensure a uniform rigor and educational effectiveness. In the medical school, student assessments, grades, and scores at various clinical sites are evaluated, as are factors related to the different orders of the clinical rotations (grades and shelf scores), to achieve parity among the various sites and clinical experiences. This process ensures that students achieve comparable competencies regardless of site location or the timing of their clerkships within their educational path.

The degree-granting programs also provide immense opportunities for student research and independent and critical thinking. All programs in the Graduate School require students to complete a thesis based on an original research project, often leading to published articles in peer-reviewed journals. Embracing a similar educational goal, the MD program launched a novel fourth year program called INSPIRE, Individual Scholarly Project and Independent Research Experience, to provide MD students with an opportunity to work closely with a mentor, conduct data analysis, and complete a scholarly project over a 12-week period. This program, which is intended to promote student creativity and intellectual independence, furthers the research education goals of the MSSM Strategic Plan. Reviews of programmatic evaluations analyzing the number of MD students who pursue summer research projects and scholarly leaves of absence, along with data from residency programs, indicate that residency applications and ultimate placement are enhanced by these opportunities, particularly in certain competitive fields.

As part of programmatic evaluations, rigorous quality control mechanisms and criteria for faculty to assume and continue teaching responsibilities exist in the degree-granting programs. Student evaluations of faculty are highly valued, contribute to portfolios for promotion on the Clinician and/or Educator track, and are shared with course directors; these quantitative and qualitative evaluations provide feedback to course directors about their role modeling, facilitation of learning, and clarity of content. Educators who receive poor evaluations undergo remediation efforts which, if unsuccessful, will lead to their removal from that course. This process is actively monitored through the Curriculum Steering and Executive Curriculum Committees to ensure that appropriate changes are made to improve the educational experience. In the MD program, future teachers are often “auditioned” and critiqued by current course directors to determine their effectiveness in a classroom. Most course directors audit many if not
all class sessions to assess continuity of course content and to monitor the quality of teaching. The MPH program uses a 360° approach to faculty evaluation whereby all faculty review course evaluations with the Program Director and plan changes and improvements prior to the term in which the course is next offered. Outstanding educators are recognized by their peers at Teacher Appreciation Day, a ceremony organized by the Institute of Medical Education (see Standard 10).

Benchmarking, assessment and analysis of Medical School educational initiatives are used to understand how Mount Sinai can best meet its educational mission and to ensure that we are meeting our goals. Consistent with the expectations of the LCME, which accredits the MD program, courses/clerkships are evaluated annually both by their department and by the medical school Executive Curriculum Committee. In addition, regular meetings for Year 1 & 2 course directors under the direction of the Year 1 & 2 Directors allow for the discussion of common educational issues and provide a forum for discussion of course content and didactic approaches which inform individual course directors as they reassess their course delivery and content. Year 3 & 4 clerkship directors meet regularly under the direction of the Director for the Clinical Curriculum for similar discussions and reviews of the clerkship experience. In addition, the Office of Curriculum Support leads the effort to implement and update the currMIT database project. CurrMIT, the curriculum management tool of the AAMC, is assisting the medical school in creating a searchable database of curriculum topics in order to enable course/clerkship directors to coordinate specific content more effectively and for the MD curriculum committees to integrate concepts across courses and subsequently measure related competencies.

The initiatives described above are important steps in the curriculum renewal process. Whereas the current curriculum was developed upon a behavioral-based objectives process, the medical school is moving toward a competency-based curriculum. This shift is consistent with the changing paradigm in national educational values, the growth of assessment tools, and the desire to add value to the educational experience at Mount Sinai through mission-based translational research and patient care. MD curriculum assessment is further addressed in Standard 14.

In the basic science degree granting programs and the clinical science degree granting programs, Steering Committees and Curriculum Committees support the programmatic development of each degree. The Steering Committees focus on the educational goals, objectives and policies of the programs while the Curriculum Committees review and evaluate all courses and curricular issues for existing and new degree-granting programs. Programmatic reviews at the Graduate School level have resulted in a number of initiatives:

- Integration of the Biomedical Sciences, MPH, and Clinical Research Handbooks to reflect unified policies, in process.
- Implementation of a new, standardized course numbering system governing all graduate courses.
- Use of a similar new course proposal form for all new courses, with review and evaluation by the respective Curriculum Committees in a similar fashion.
- Refining the course registration and evaluation system, such that graduate students will follow similar course registration procedures (pre-registration periods, add/drop periods, etc) and course evaluation procedures. As new
graduate programs may develop in the future, it is important that all programs adhere to the same educational standards and policies.

Student understanding of their own educational progress is another important measure of program success. In the MPH program as well as in other graduate courses, students are asked to self-assess their knowledge and competencies as a result of their completion of a particular course or, more broadly, to assess desired competencies at the end of each academic year. In addition to formative feedback provided by faculty related to their interactions in small groups, lab, and with patients, students in the MD program assess each other (peer assessment) and themselves on their teamwork and interpersonal skills. Student feedback during committee meetings with student members, student feedback forums, individual meetings with Program Directors, advisors, and mentors, as well as informal feedback to faculty all provide insight into how students evaluate their own learning.

As demonstrated above, all of the degree-granting programs operate with specific program goals. The programs utilize a variety of learning settings appropriate to the educational goals of the program and to each course: traditional didactic and interactive small group formats, participatory journal clubs and seminars, and experiential sites such as laboratories, clinical rotations, and research practica. In closing, MSSM programs follow a planned curriculum which matches established educational goals. Each program undergoes self-evaluation regularly and submits to broader School oversight as well as to a number of external professional accreditation bodies. The faculty and staff of Mount Sinai School of Medicine take the delivery of quality education seriously, are committed to seek the appropriate methods to regularly evaluate each program and apply quality improvement.
The Page and William Black Post-Graduate School for Continuing Medical Education (CME) is the professional development unit of the Department of Medical Education. The purpose of this office is to meet the educational needs of licensed physicians as well as provide a source for lifelong learning with an ultimate goal of improving patient care. The CME program coordinates educational activities for Mount Sinai faculty and staff as well as physicians and healthcare providers from institutions located regionally, nationally, and internationally.

During the last decade, the offerings of the CME program have grown in number and scope. We produce a variety of live activities, enduring materials (journals and CD-rom) and regularly scheduled conferences, e.g., weekly grand rounds. CME offers programming in many therapeutic areas that highlight the strengths of the MSSM faculty in diagnosis, treatment and/or research. A standard template is utilized to evaluate proposed courses. At the conclusion of an approved course, all CME activity participants are required to complete a program evaluation. The evaluations are reviewed and distributed to the Course Director and stored as part of the program file. All data obtained from the evaluations are regularly reviewed by the Director and Associate Dean of CME to ensure programs meet or exceed departmental expectations. In addition, the data is included in the planning process for future CME programs and activities. All MSSM CME activities are conducted in strict accordance with the guidelines of the Accreditation Council for Continuing Medical Education (ACCME), the national CME accrediting body.

In 2008, the Mount Sinai School of Medicine supported and approved 416 activities – including live courses and enduring materials. 3,600 hours of instructions for over 55,000 physicians and 20,000 non-physician participants were produced. In that same year, MSSM produced and supported more programs and served the educational needs of more physicians than any other medical school in New York State. To support the volume of programs through our CME division, a highly trained staff supports all facets of the CME approval and delivery process. Topics delivered through CME are varied and are not driven by any curricular needs. No CME credit is accepted towards a MSSM awarded degree.

In 2005, Mount Sinai received accreditation, with commendation, from the ACCME for a full seven years. This is the highest designation offered by the ACCME. Our next accreditation site visit will be in 2011. An in-depth self-study review of the CME program for content, function, and process is required and will take place before the 2011 visit.
**Standard 14: Assessment of Student Learning**

Assessment of student learning is the most critical function for confirming and enhancing curricular and co-curricular learning experiences for all MSSM academic programs. Our assessment efforts provide evidence of educational quality as it relates to ensuring that the educational, research, information dissemination, patient care and community service goals of our mission are met. To ensure that our graduates fulfill our mission, each program measures student learning both directly and indirectly, collects pertinent data and disseminates data to key stakeholders to foster continual improvement in the quality of the educational and academic experience. Assessment of student learning occurs not only at the student level but also at the level of faculty, alumni, overall curriculum, teaching methods, learning environment, program goals, and institutional leadership. From those assessment efforts, results are compared with institutional and national expectations. Standard 11 outlines the goals of each program, how each program supports the overall mission of the institution, and how each program’s curriculum is routinely evaluated.

This response to Standard 14 outlines the numerous and varied direct and indirect measures of student achievement in academic programs and the extent to which program goals are met. While students in the MD program follow a relatively standardized course of study, the Graduate School programs are more tailored to individualized needs and outcomes. Appendix O contains a summary of program goals and expected learning outcomes, methods used for assessment, and how outcomes are measured and analyzed for each of Mount Sinai’s educational programs. This appendix can be viewed as an institutional “catalog” of the varied tools used by each program to assess student learning. Some highlights of the outcomes measures used in our assessment processes are outlined below.

**Doctor of Medicine Program**

The innovative curriculum of the MD program trains students to become highly skilled physicians and compassionate caregivers. Assessments are grounded in the guidelines established by several national organizations and accreditation bodies and provide evidence that MSSM students successfully meet both internal and national key graduation competency requirements. These learning outcomes are based upon the national accreditation organization, the Liaison Committee for Medical Education (LCME), also taking into consideration the Accreditation Council for Graduate Medical Education (ACGME) competencies for residents (the next training step for all medical school graduates).

The curriculum is developmentally structured and requires that students demonstrate adequate knowledge and skills in order to progress to subsequent years. Therefore, while each course and clerkship has subject-specific goals and objectives, global competencies (e.g., communication skills, professionalism, evidence-based clinical reasoning, self-directed learning, etc.) are threaded throughout the curriculum. Course and clerkship directors undertake assessments that assure that these goals and objectives are met. They review their course or clerkship goals, objectives, curriculum, teaching format and assessments to assure that they are consistent with the overarching graduation competencies and that they facilitate advancement through medical school.
A variety of modalities for assessment of student learning are used throughout the MD program, including: multiple choice and modified short answer essay examinations; practical exams; assessment of small group performance; direct observations with real and standardized patients; chart reviews; oral and written case presentations; and self and peer assessments. The results of these assessments in total provide convincing evidence of students’ achievements of our required competencies. These assessments are complementary, using multiple, additive modalities in an ongoing fashion to assess student outcomes. In addition, our assessments accurately predict student achievement of national standards as documented by the United States Medical Licensing Exams (USMLE Steps 1, 2 Clinical Knowledge and Step 2 Clinical skills) and successfully completing their first year of residency training.

At each stage of the MD program, outcomes are assessed using a variety of measures that include:

- Collecting and tracking pass/fail rates for each course and clerkship, and longitudinally tracking each graduating class for their performance in specific content areas (e.g., Anatomy, Pharmacology, Internal Medicine) on USMLEs to assess competency in these specific areas.

- Monitoring of students who need to retake exams or repeat courses. Although grades are pass/fail, the Administrative Director of Student Affairs tracks students with marginal performance or failure and implements remediation when required, as described in Standard 9. Within Student Affairs, there is a network of Student Support personnel who review students with marginal performance, creating integrated, individualized educational plans for these students with continuous feedback and reassessment. Thresholds are defined to identify when students are reviewed by the Promotions Committee for more extensive remediation plans.

- Reviewing all critical incident reports for unprofessional behaviors and for students who are in serious academic difficulty, as defined in the Medical Student Handbook. Responsibility for this measure falls to the Student Promotions Committee members.

- Conducting comprehensive clinical assessments (COMPASS 1 and 2) at the end of the second and third years to identify student achievement of the specific goals for each segment of the program as well as preparedness for the next phase. These exercises utilize innovative evaluation methods such as standardized patients to assess application of knowledge, skills and attitudes, including communication, clinical and ethical reasoning, and professionalism.

- Comparing Mount Sinai students longitudinally with other medical school students’ performance on national standardized exams (USMLE Steps 1, 2 CK and 2 CS, and National Board of Medical Examiners subject test exams) and with changes in the curriculum content, format and learning experiences.
• Creating a comprehensive Medical Student Performance Evaluation (MSPE) for each student at the end of the third year of medical school. The MSPE compiles all awards and prizes, involvement in school and the community, academic performance, research accomplishments, and includes the five appendices required by the Association of American Medical Colleges (AAMC) to support student applications for residency. The School has created a numeric system to quantify the accomplishments of each student within the goals of the curriculum and the mission of MSSM and in concert with the School’s definition of success (not only knowledge acquisition but also professional attributes, scholarship, superb communication, and commitment to community and leadership). A grid is prepared in order to rank students into quartiles according to the guidelines for creation of the MSPE by the AAMC.

• Analyzing success in the fourth year students’ match for residency training programs. Data is tracked based upon match rates by specialty choice and specific type and quality of residency program. In the internal exit survey, students identify where their ultimate match was on their rank list (top choice or further down on their preference list).

• Polling graduates and their residency program directors at the end of their internship for ratings on how well-prepared our graduates are for residency training, and their performance during the graduate medical education experience.

• Polling graduates within five years after medical school to assess whether they continue to serve the mission of the School including teaching, research, community service, and/or patient care.

The overall assessment process is continually reviewed by the program’s Dean and the Associate and Assistant Deans, with modifications implemented as necessary to ensure that modalities capture the necessary evidence to document our students’ achievements and to provide feedback that allows modification of our educational process. In addition, program administration reviews the assessment methods in the course of periodic self-studies submitted to the Liaison Committee on Medical Education (LCME) and subsequently implements LCME suggestions for improvement.

Graduate School Programs

Although the PhD and Masters programs at Mount Sinai differ in their detailed requirements, all programs are monitored by interdisciplinary faculty steering committees to ensure that each program adheres to the highest academic standards. Students in dual degree programs are subject to the same standards as students in a single degree program and are expected to achieve the same level of competency. In general, graduate students are assessed by faculty committees that determine whether specific targets or milestones required for advancement have been attained. Satisfactory progress, which is defined in the Graduate School
Handbook, outlines the minimum requirements a student must fulfill in order to maintain good academic standing. Satisfactory progress may include minimum GPA requirements, timelines to meet certain program requirements, such as qualifying exams, thesis proposal and degree completion, and number of credits fulfilled per year. The Academic Advisory Committee, the Dean, and/or Program Director provide counseling to students with low performance indicators. Students who do not meet these requirements are discussed by a Graduate School Promotions Committee or the MPH Academic Advisory Committee and may be subject to academic hold or probation. Consistent failure to exhibit satisfactory progress can result in academic probation, an administrative leave of absence, and/or dismissal from the program.

Each graduate student meets at least once annually with his or her Faculty Advisory Committee to identify and resolve issues, set expectations for progress, and devise plans for further advancement. Students also meet regularly with their Program Director and other mentors in their program. Program Directors meet with Graduate School leadership to provide an ongoing assessment of students’ progress and to discuss any relevant programmatic issues.

Basic Science MS and PhD Programs (Biomedical Sciences/Neuroscience)

The Graduate School provides a rigorous education in basic science (biomedical sciences and neuroscience) to research-oriented students. Through core curricula, advanced coursework, journal clubs and seminars, students acquire a broad knowledge base of the fundamentals of current biological sciences, develop critical reasoning skills, become proficient in communicating the latest research findings both orally and in writing, develop the ability to work in teams, and perform hypothesis-driven research culminating in an original thesis project. Students are expected to demonstrate a rigorous understanding of the professional conduct of research and of the collegial pursuit of new knowledge. Graduates are expected to contribute to the translation of basic research findings into applications for novel therapies and preventive and diagnostic modalities that will improve patients’ health and well being.

At predetermined stages of the MS and PhD in Biomedical Sciences programs, objectives are assessed using a variety of outcome measures that include:

- Assessing core knowledge using exams, problem sets, and qualifying examinations.
- Assessing advanced training area specific knowledge using exams and papers, and each student’s thesis proposal and defense.
- Assessing critical reasoning through the proposed and completed thesis.
- Demonstrating active and effective participation in small group discussions in courses such as the Responsible Conduct of Research.
• Tracking the completion rate of various program milestones. Advancement through the PhD and Masters programs requires that students meet certain deadlines. The progress of each student is assessed by a faculty committee that certifies that the student has met the requirement for advancement in the program.

• Assessing the progress of individual students through the Faculty Advisory Committee process (PhD programs). Students are required to meet twice annually with their three-person Faculty Advisory Committee. The role of the advisory committee is to provide feedback on students’ progress, maintain a realistic set of expectations for progress, identify and resolve problems, and to serve as a source of ideas and new approaches, if necessary. Formal Progress Reports are filed twice annually. On the last page of the form, the Advisory Committee is required to evaluate the student’s progress, clearly identify strengths and weaknesses, and indicate plans for development. Failure to achieve and maintain satisfactory progress after counseling from the Advisory Committee, Dean, and/or Program Director can result in academic probation and ultimately dismissal from the program.

• Conducting exit interviews. The Dean of the Graduate School or the Program Director interviews all departing students, including those who do not complete the program. Each student also completes an Exit Survey, the results of which are used to evaluate student satisfaction with the program.

• Conducting Alumni surveys on a biannual basis to collect up-to-date information on the current position and professional activities of our graduates.

• Comparing Graduate program data with data from graduate programs in other medical schools as reported by the National Survey of Graduate Faculty, the survey of graduate programs by the National Research Council and the AAMC.

MD/PhD Program

The rigorous, integrated joint degree MD/PhD Program continues in its commitment to educate future physician-scientists in an environment that promotes cutting-edge research. In this program, which is approximately eight years in length, students complete the first two years of medical school (preclinical training) before initiating studies towards the PhD in Biomedical Science or Neurosciences. After completion of the requirements for the PhD degree, MD/PhD students return to the medical school to complete their final two years of clinical training.

NIH pre-doctoral training grants support the MD/PhD program and a number of other basic science training programs. Whereas noncompetitive reviews of the programs are required and submitted annually, competitive renewals of applications for continued NIH funding, submitted every five years, require presentation of detailed descriptions of: the organization of the training program; the criteria for trainee recruitment and selection; mechanisms used in evaluating the quality and success of the training effort; the size and quality of the applicant pool; the qualifications of the proposed faculty participants; and the program’s plans and efforts to recruit and retain a diverse trainee population (including individuals from underrepresented
racial and ethnic groups and individuals from financially disadvantaged backgrounds). Evidence of success of the program includes: documentation of research publications completed by trainees; admission and completion records for trainees in participating departments and programs (including a separate analysis of those trainees from groups underrepresented in medicine and disadvantaged backgrounds); qualifications of the trainees; and the current positions (including grant support) of past trainees. A critique of the competing continuation application by an external review committee assembled by the NIH identifies specific strengths and weaknesses of the program, and is provided to the training program Director after review.

MD/PhD students must complete all the degree requirements for the Doctor of Medicine and the PhD in Biomedical Sciences/Neurosciences programs. Objectives are assessed using the outcome measures delineated above for each of these two programs.

MPH Program

The Mount Sinai School of Medicine Master of Public Health Program is a competency-based program requiring that students demonstrate progress toward achieving pre-determined competencies for degree completion in preparation for becoming members of the public health workforce. The MPH Program’s competencies are adapted from the Council on Linkages Between Academia and Public Health, a body funded by the Centers for Disease Control and Prevention (CDC) and staffed by the Public Health Foundation. The MPH competencies exist to further academic/practice collaboration to assure a well-trained, competent workforce and a strong, evidence-based public health infrastructure. All methods of assessment are linked backed to the program competencies which students are expected to have achieved at degree completion. Detailed data of student assessment is compiled and disseminated to pertinent program and institutional committees for review and comment, thus ensuring a continual iterative process of student and program evaluation.

Assessment of student achievement in the MPH Program occurs at multiple levels with continual evaluation of student achievement at the core. Examples of indirect and direct measures of student achievement include:

- Maintaining a “B” average to remain matriculated in the program and for degree completion.

- Completing a 150-hour public health practicum experience that is planned, mentored and evaluated by a qualified field preceptor. Field preceptors must evaluate and provide feedback including student behavior, attitudes, motivation, reliability, dependability and interaction with others.

- Completing a capstone project. Students must work with an expert advisor to develop an original research question related to public health, gather and analyze data and summarize their findings in a 25 to 30 page written masters thesis. This experience is iterative and requires continual feedback from academic and thesis advisor(s) as the project progresses (typically a one-year process). At the completion of the written document, all students are required to participate in an “intellectual dialogue” with their master’s thesis advisor and a second reader.
Mentors additionally assess a five to ten minute oral presentation summarizing the project followed by an in-depth discussion of strengths and weaknesses.

- Twice during the program, in collaboration with their academic advisor, all students must self-evaluate their progress in achieving program competencies.

The MPH Program strives to make continual improvements in its efforts to assess student achievement and to enhance the academic experience for students. Program committees routinely critically evaluate the following data to improve the academic program and to improve assessment of student learning.

- Critically evaluating student course evaluations that provide feedback on course content, teaching format and the skills of the course director.

- Monitoring of degree completion rates.

- Conducting annual informal student feedback sessions and exit surveys of all graduating students and bi-annual alumni and employer surveys.

PhD and Master of Science in Clinical Research (MSCR) Programs

At this time, clinical research programs are not accredited or regulated by a national organization. However, the methods and outcome measures used are comparable to other clinical research education programs across the country, originally conceived by and supported through the NIH K30 Clinical Research Curriculum Awards, then the Institutional NIH funded K12 Awards, and now by the Clinical and Translational Science Award (CTSA) mechanism. The format of the PhD is comparable to the standards employed for assessing and awarding of PhDs in basic science.

At each stage of the clinical research education programs, objectives are assessed using a variety of outcome measures that include:

- Completing graded final exams related to required course work

- Participating in classroom and small group session discussions

- Participating in a clinical/translational seminar series, “works in progress”, where professionalism, critical thinking and presentation skills and respectful, constructive debate are evaluated and feedback is provided

- Participating in a Clinical/Translational Journal Club, where mastery of methodology and analytical skills are further developed and evaluated.

- Contributing to internal and external poster sessions where progress in research, presentation abilities, and engagement is assessed via participation in scientific debate.
• Completing a grant writing course/mock study section, where grant writing abilities are formally taught and reviewed

• Successfully completing a qualifying exam at the end of the first year of coursework (in the case of the PhD in Clinical Research)

• Completing a mentored research project

• Submitting a Thesis (MSCR) and defense (PhD in Clinical Research)

• Completing Dissertation research and defense (PhD in Clinical Research)

Master of Science in Genetic Counseling (MGC) Program

MSSM’s Genetic Counseling Program is assessed using guidelines established by the American Board of Genetic Counseling (ABGC). Annual reporting mechanisms are used to demonstrate that guidelines are being met, and periodic full accreditation reviews are conducted by self-study and site visitation. Graduates of our program are expected to sit for examination by the American Board of Genetic Counseling; additionally, some states require licensing examinations. Data from the certification examinations support that graduates of our program successfully master core competency requirements. In addition, tracking of graduate activities and publications also support the achievement of our outcomes.

At each stage of the MGC program, objectives are assessed using a variety of outcome measures that include:

• Evaluating students in their didactic curriculum in a number of ways: exams (multiple choice, short answer, essays), papers, small group interactions and overall program participation

• Completing written evaluations of the progress of clinical competencies established by the ABGC during experiences in clinical training areas

• Regular clinical supervisor meetings to review student status and 1-2 formal meetings of all supervisors across disciplines for further evaluation and development of clinical education plans for each student

• Reviewing the thesis requirement by the faculty preceptor and study team, as well as by committee

Courses are evaluated by students and reviewed by the curriculum committee. The same is true of the clinical training experiences. In addition to the ABGC and student evaluations, the Program is subject to review by the Department of Genetics and Genomic Sciences, and the Graduate School.
EVALUATION OF ASSESSMENT PROCESSES

Strong evidence exists to demonstrate that educational offerings are reevaluated on a regular basis using direct evidence and competency based assessment, and further corroborated through indirect evidence of student learning. The assessment processes themselves are evaluated by review committees that oversee the curriculum and student performance. This data is provided to relevant administrative personnel and the Deans of the Medical and Graduate Schools to ensure that assessment processes are effective in providing useful, accurate, and direct evidence to evaluate student learning and support substantive curriculum changes when necessary. The assessment processes incorporate all educational constituencies, including the faculty who teach in the programs, the administration that oversees the programs, and the students. The process requires a dedication of time and effort by all parties involved, but is a worthwhile investment for the valuable information it yields. The data are accessible and easy to interpret, making the assessment process sustainable and not overly burdensome.

As an example, the MD program has a multi-tiered process to review the assessments and provide feedback to appropriate individuals. Each educator and the course content, teaching formats, assessments and course resources are evaluated by students, the course or clerkship director and intermittently by peer faculty. These evaluations are reviewed by administrative directors (MDs and PhDs) that oversee the courses and clerkships. This information is also provided to the Curriculum Steering Committee (CSC), an oversight body that continuously reviews and tweaks our educational process. These evaluations are summarized and provided to the course or clerkship directors and their department chairs and to the oversight body for the medical school program, the Executive Curriculum Committee (ECC). Annually, each course or clerkship is reviewed by the ECC and feedback and recommendations for changes are directly provided to the course director(s) and to the CSC in order to assure that the appropriate changes are implemented and subsequently tracked at the next annual meeting. The Deans attend the ECC meetings so they are constantly aware of our successes and of areas in which a need for improvement has been identified. There are similar processes in place for the other MSSM programs; however, structures vary based upon the length and complexity of the programs.

Similarly, the basic science programs are continually assessed both in terms of their curricular offerings and their goals and objectives at monthly meetings of the Basic Science Curriculum Committee and Basic Science Steering Committee. These committees are comprised of faculty and student representatives from all training areas. Course evaluations, program admissions criteria and yield data, policies, and progress in meeting goals and objectives are regularly reviewed. These committees are advisory to the Dean of the Graduate School, who ultimately has responsibility for implementation of any recommended changes. Our other Graduate School programs, i.e., the MSGC, MPH, MSCR and PhD in Clinical Research programs all have similar mechanisms for assuring that assessment results are looped back to the appropriate constituencies so that changes can be made to the program curriculum when appropriate.

As evident from the program descriptions earlier in this section and in Appendix O, Mount Sinai’s educational programs are in various stages of implementing detailed programmatic assessment, mapping learning outcomes and reassessing program goals based on
the data. Programs with a professional oversight group (LCME, CEPH and ABGC) have more well-developed assessment and outcome parameters than those without external review bodies. Best practices need to be identified and put into practice across programs when suitable. Similarly, while all programs employ rigorous methods of planning, implementation and assessment, a different vocabulary exists across programs related to learning objectives, goals, competencies and learning outcomes. Standardization of nomenclature will be explored to determine whether it is desirable and practical.

Sufficient evidence exists that students are in fact achieving the goals outlined by the educational programs. Our effectiveness is further validated by external methods of evaluation including pass rates on standardized exams and certification exams, success of the residency “match” process, obtaining peer review funding, and annual MD/PhD progress report. Post-graduation accomplishments are also a good indicator of the success of the institution. Alumni surveys are used to track student career paths years after graduation. Positions held, funding attained for research, community service and publications are some of the items tracked that are a testament to institutional success and prove the achievement of the institutional goal of producing students who are lifelong learners.

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Across all educational programs at Mount Sinai is the strong institutional commitment to developing students capable of fulfilling the institutional mission of excellent patient care; educating outstanding physicians and scientists; supporting innovative research; disseminating knowledge; improving the health of the community, and creating an environment conducive to individual creativity, career and personal advancement. (See also Standard 1, Mission.) In order to achieve our educational mission, acquisition of core attitudes and behaviors are essential for all biomedical professionals. All MSSM programs must be sure that by the end of their course of study, students can apply their knowledge and skills to transition successfully into the workforce, including having appropriate scholastic rigor, excellent analytic skills to understand complex systems and problems, and an ability to collaborate effectively with colleagues. To facilitate life long learning, we must assure that our graduates can seek, analyze and apply new scientific discoveries into their practices and research. To improve the health of the community, graduates must use this information to educate patients, colleagues, staff, and future scientists.

**COMMITMENT TO ETHICAL VALUES**

In addition to the learning objectives that are directly linked to the specifics of each educational program, MSSM has universal expectations for all students, faculty and staff in the fundamental elements of respect, honesty, trust and confidentiality. (See also Standard 6, Integrity.) To assure that our students adopt and practice professionalism, our programs incorporate ethical principles and values into every student’s educational experience. We model an honest, open, and equitable educational environment and seek to graduate professionals who will carry the highest ethical principles into their career duties and obligations. We ensure all of our students understand and embody these important values so that our graduates have an appropriate ethical framework in which to conduct their future practice. Didactic coursework,
supervised training settings, and institutional offerings are all considered opportunities to cultivate and receive feedback on these values. Our students are also subject to rules and regulations concerning appropriate ethical conduct and integrity and are held accountable to these standards. Each program communicates these policies to its students and ensures their enforcement.

Mount Sinai’s commitment to ethical values is evident at the institutional level and we provide an environment that facilitates their development in our students. Students participate in several institutionally mandated programs such as HIPPA compliance, Conflict of Interest, and Responsible Conduct of Research. There is also great depth in continual institutional ethics offerings including lectures and institution-wide case presentations and biannual conferences that students are encouraged to participate in under the leadership of our Director of Medical Ethics, Dr. Rosamond Rhodes.

Each of our educational programs requires relevant didactic coursework in ethics focused on the needs of their individual programs. For instance, our medical students have a longitudinal professionalism curriculum across all four years of medical school that teaches and assesses the professional and ethical standards and requirements of the medical profession. Our basic science students complete Responsible Conduct of Research, a course offered in their first year, which covers fundamental issues of training ethics, laboratory animal welfare, authorship, biohazards, relationships in the research environment, record-keeping, mentoring and conflicts of interest. Under Dr. Rhodes’ direction, a robust offering of additional didactic courses is available for all students.

A variety of supervised training experiences occurs across our different educational programs. These experiences provide a learning environment by role modeling as well as the opportunity to confirm that our students’ apply ethical values in their actions and behaviors and that they are consistent with our institutional expectations. Examples include:

- Students in the MSCR and PhD in Clinical Research programs participate in a Clinical Translational Seminar Series where they learn to engage in respectful debate and collegiality. In addition, in the context of a required Clinical and Translational Research Journal Club, they are taught to assess the ethical nature of a particular clinical research study and review of a respective publication, with regard to real or perceived conflicts of interest.
- The Genetic Counseling students complete supervised clinical training where their ethical behaviors and actions are evaluated. In addition, these students must present clinical case presentations, as well as discuss the associated ethical concerns and their role in clinical decision making.
- Medical students’ demeanor and behaviors are assessed in their small groups in Year 1 & 2 courses, and in their interactions with patients and other health care professionals in all of their clinical training experiences (clerkships in Years 3 & 4). The MD program also assesses students’ interpersonal skills and ethical reasoning skills in two standardized patient-based assessments (Compass I & II) at the end of the second and third years of their medical school experience. Finally, medical students perform self and peer assessments of their communication and interpersonal skills, including their ability to participate and
work as a team member. They are evaluated on their ability to meaningfully and respectfully contribute to a small group in both year one and two of medical school and in their interactions with each other in several courses and with their patients and other health care providers. Critical incident forms have been developed which allow faculty/staff to document and highlight our medical students’ outstanding or deficient professional behaviors. This form is completed by a faculty evaluator, reviewed with the student, and becomes part of a longitudinal record of our students’ professional behaviors which is tracked by the Academic and Student Affairs Office. Our graduates’ residency program directors are surveyed to provide feedback that our students meet competencies regarding their professional behaviors after graduation. In order to assess our medical school graduates’ commitment to the profession and to improving the healthcare system, alumni are surveyed about their community service and other scholarly commitments.

Each program articulates school policies related to professionalism and academic conduct and is expected to enforce these rules and regulations. Issues of academic misconduct including cheating, plagiarism, breaches of confidentiality, unprofessional behavior toward staff, faculty, patients/study subjects and colleagues are not accepted. In comparing how these ethical/professional issues are treated across programs, we found that while the underlying principles are the same, there were sporadic inconsistencies in how policies were applied. This lack of consistency could be problematic and as such, a recommendation has been made to review all of our policies and practices in depth to determine whether differences are appropriate and if not, to correct these discrepancies. In addition a systematic mechanism will be implemented to monitor and assure consistency in the mechanisms by which professional issues are resolved.

COLLABORATION AND CROSS DISCIPLINARY TEAMWORK

The MSSM mission calls for excellent and rigorous training in basic science, patient based research and clinical medicine to foster critical thinking and the ability to unravel complex problems of disease in order to improve health. Effective collaboration and cross disciplinary teamwork are essential to physicians and scientists alike. Mount Sinai strongly believes that breakthrough discoveries and successful translation to clinical practice are critically dependent on effective communication and collaboration through networks. The School strives to make this an increasingly important part of our culture. Learning to be effective team members and collaborators is a curricular component of all of MSSM’s educational programs and will enable our students, scientists and clinicians alike, to use their skills to inform others in our community and to collaborate in order to improve the health and outcomes of all individuals.

The basic science Master’s and PhD programs have, as one of their goals, to educate students to be able to share their ideas with scientists both within and outside their fields of specialization. None of the basic science graduate programs are department–based; each is directed by a multi-disciplinary, interdepartmental steering committee. When students are accepted into the basic science Master’s or PhD programs, they may indicate a preference of discipline for their education and training, but they are all accepted through a centralized flexible
entry program. It is not until after they have completed a first-year core curriculum, which prepares them to enter one of many training areas, that students declare their thesis advisor and begin to focus their work in one area. The core curriculum ensures that the students have a broad knowledge base that will allow them to specialize in their second year in an area of their choice. In addition, students rotate through laboratories of their choice in the first year so that they also learn the basic aspects of different areas of research. Thus, our basic science students have a broad knowledge and technical base which gives them the necessary tools to collaborate with researchers in other areas. In order to assess how effectively our basic science PhD students are collaborating, we analyze the variety of authorship on publications including scientists outside of their thesis advisor’s research group. Most of our PhD graduates are co-authors on publications that include other scientists within their thesis advisor’s research group. About 50% of our PhD graduates are also co-authors with other scientists on manuscripts that are not directly related to their own thesis work. It is clear that these students are effectively working as part of a research team.

The MPH Program emphasizes effective team membership as one of the central educational achievements for all students. Specific competencies related to teamwork ensure that our graduates are prepared to enter the workforce. All students participate in courses that require, as part of the course grade, class participation, small group interaction or group projects that necessitate team skills. All students must write a master’s thesis that requires them to assemble a team of advisors across disciplines (at a minimum, a thesis advisor, second reader and statistician) as well as carry out public health research that typically requires interaction in a workforce setting where cross-disciplinary team skills are essential. Finally, and most importantly, as a requirement for degree completion, all MPH students must complete a 150-hour practicum experience. This experience is essential to prepare students for work in a public health setting which by its nature is cross-disciplinary. The practicum experience requires that students identify, contact and develop a relationship with a mentor in a public health setting and then in conjunction with their academic advisor and their practicum mentor devise a planned experience. The practicum mentor must evaluate performance during the practicum that specifically addresses the student’s effectiveness as a team member in a public health setting.

In the MD program, teamwork is considered a critical component of medical practice. Medical students must be able to partner across disciplines and work effectively with other health care members; accordingly, the curriculum includes opportunities for interdisciplinary teaching with physicians, social workers and nurses. In addition, as early as Year One, scientists and physicians co-teach some courses and small group sessions. Starting in the second month of medical school, students participate in a Longitudinal Care Experience that assigns them to a health care team, consisting of a physician and other health care workers who follow a chronically ill patient. An LCE curriculum has been developed to address the important components of teamwork, including identifying clear goals and objectives for each team member, ground rules and communication skills. Our medical students also participate in a variety of activities that reinforce these skills and provide feedback about their ability to partner with others. These activities include: team teaching and learning in the Anatomy, Histology and Art and Science of Medicine courses (students with peers), the Longitudinal Clinical experience mentioned above, and independent scholarly projects (conducted together by students, clinicians and scientists).
In addition, in all the third and fourth year clerkships, medical students are part of an inter-professional health care team that manages patients. Student teamwork skills are assessed through direct observation and evaluation that provides formative and summative feedback from team members and mentors, through group grades on projects, small group interactions, oral presentations designed to educate peers and our students’ self and peer evaluations. Residency program director surveys confirm that our medical students are competent to work and contribute to a team and our students self assess their teamwork skills in the AAMC graduation survey.

Genetic Counselors are a part of a healthcare delivery team; intra- and inter-disciplinary teamwork is essential. Our genetic counseling students interact with other disciplines in several capacities. As students, they share didactics with medical students and graduate students of the Public Health, Clinical Research, and Basic Science programs. Other team experiences include teams with residents, fellows and faculty from a number of different disciplines. Genetic counseling students also share genetics-specific didactics with residents and fellows as well as case conferences, journal clubs and patient care activities. Finally, genetic counseling students work with physicians, social workers, nutritionists and others in their clinical rotations and are evaluated on their teamwork and ability to interact across disciplines.

The Clinical Research Education Programs provide interdisciplinary training opportunities for physicians, nurses, social workers, pharmacists and others with advanced degrees relevant to the healthcare field. These training opportunities are intended to encourage the development of critical thinking necessary to conduct innovative, hypothesis driven, independent and collaborative clinical/translational scientific research, and to facilitate the ability of our students to function effectively in teams to solve problems of disease. By encouraging and recruiting students from such a broad range of scientific backgrounds (both medical and social sciences) and perspectives, our program serves to enhance communication and foster collaboration amongst diverse members of the health care community.

In clinical research education, teamwork skills are specifically modeled and assessed during the small group discussion format portion of our Spectrum of Measurements in Clinical Research course. They are also evaluated in the context of the Clinical/Translational Research Journal Club, where students work in pairs to select a specific article for review and to promote and foster thoughtful discussion regarding specific methodological topics related to the journal article they chose for review as a group. In the setting of the Clinical and Translational Research Seminar series, which includes a “Works in Progress” component, students are assessed for their collaborative support of colleagues during their respective presentations. They are also evaluated with regard to their constructive critiques and proactive participation during these formats designed for rigorous and thoughtful exchange and debate. Our mentoring program also provides a format for a more didactic presentation of teamwork and the skills required to conduct team science in the post genome age. In addition, our students attend a quarterly one hour, “Molecules to Man” Translational Research Seminar Series as well as an annual internal clinical translational retreat. Both the seminar series and the full day retreat focus on cross disciplinary collaborations and are organized in a manner that highlights the integration of basic and clinical scientific approaches to solving specific problems related to human disease and the delivery of care to those afflicted with specific conditions.
A unique feature of the Clinical Research Education Program is that clinical research students are required to have two mentors, representing T1 and T2 research expertise in their multi-disciplinary mentorship team. Multidisciplinary Dual T1/T2 mentorship facilitates the ability of students to converse intelligently and effectively across disciplines and platforms, while preparing them to be knowledgeable, cooperative participants in team science and discovery. In addition, considerable time for both the MSCR and PhD in clinical research is spent designing, conducting and writing up mentored, multi-disciplinary clinical/translational research; this is reflected in their respective thesis and/or dissertation.

**TRANSITIONING INTO THE WORKFORCE**

The definitive indicator that our learning objectives are appropriately focused and that students are capable of applying their knowledge, skills and attitudes can be verified by how well our students transition into the workforce. MSSM program curricula are based on defined learning outcomes and competencies, grounded in guidance provided by external accreditation or regulatory bodies, generally accepted practices in the program specific fields, and the mission and goals of the School. As stated earlier in this Standard, three of our educational programs -- the Doctor in Medicine, the MPH and the Masters in Genetic Counseling -- have national professional accreditation organizations (LCME, CEPH and the ABGC respectively) that provide guidelines for learning outcomes or competencies.

The Masters and PhD in Clinical Research programs do not have national oversight organizations, but instead have looked to the NIH K30 awarded institutions and more recently Clinical and Translational Science Award (CTSA) education programs to develop a training environment and establish competency-based educational curricula that will define the discipline of clinical and translational science. Competency based guidelines on a national level have not previously existed.

Over the past few years, the National Center for Research Resources (NCRR), in collaboration with the CTSA Education and Career Development Key Function Committee, has formed the Education Core Competency Work Group to define guidelines for core competencies in clinical and translational research. In July 2009, this Work Group published recommendations for core competencies, including 14 thematic areas (clinical and translational research questions; literature critique; study design; research implementation; sources of error; statistical approaches; biomedical informatics; responsible conduct of research; scientific communication; cultural diversity; teamwork; leadership; cross disciplinary training; and community engagement) that should shape the training experience of junior investigators; defining skills, attitudes and knowledge that can then be shared across multidisciplinary teams of clinician-scientists. MSSM is actively involved in this effort; we have already taken steps to revise the curricula, and will continue to do so as discussions evolve.

The basic science degree-granting programs do not have national accreditation organizations but instead structure learning objectives around well known and generally accepted practices in the program specific fields. Success in transitioning to the workforce is measured in part by the quality of peer-reviewed publications and garnering grant support for research programs. By these criteria, our programs are outstanding at preparing students for contributing
to the advancement of science and the translation of scientific discovery to improve patient health. The interdisciplinary structure of MSSM, particularly through the interdepartmental, interdisciplinary Institutes, provides a framework for the training of our graduate students. Our faculty serve as role models for the students. Our School is particularly well positioned to educate and train future translational scientists; the strength of our basic science departments and the geographic proximity to a major clinical setting set the stage for abundant translational work. In addition, our students participate in required and optional educational activities with students and faculty from other MSSM programs, facilitating an understanding of the value and role of teamwork in fulfilling the MSSM mission.

Whether guided by an external accreditation organization or generally accepted practices, the defined learning outcomes and competencies of MSSM’s educational programs are all designed to adequately prepare our students for their chosen careers. Students are surveyed and evaluated during the course of their studies to be sure they are achieving what is required of them, and before they graduate to ensure that they are prepared to join the workforce. All programs survey alumni to determine if they believe that they were adequately prepared and to track their accomplishments post graduation. Some programs also survey employers/residency programs to determine if our graduates meet their expectations. Survey data shows that our graduates pursue successful careers and find themselves adequately prepared. Feedback from faculty, students, alumni and employers/residency programs is also used to assess the strength of our curricula and their ability to adequately teach the required competencies.

The curriculum in the Doctor of Medicine program requires fourth year experiences including a sub-internship, critical care and emergency medicine clerkships and the newly developed introduction to internship course. These mandatory experiences prepare students for residency by requiring that our students apply the knowledge, skills and attitudes developed during medical school to taking care of patients and focusing on developing independent practice. These new skills include teamwork, higher level communication with patients and health care providers, time management, decision making, and managing emergencies. “Introduction to Internship”, which is first being offered to medical students who will graduate in 2010, will allow students to review and practice the skills they have acquired throughout their courses and clerkships in the first three years of their medical school training. They will also learn new skills including how to minimize medical errors occurring during patient transitions of care, how to present their patients during Morning Report, and how to manage acute emergencies.

In order to assure that medical students competently apply their knowledge and skills as residents, they are polled by the AAMC and by MSSM when they graduate to determine if the curriculum and assessments adequately prepared them for residency training. These data confirm that, our students feel confident that they are ready for residency. Medical students are also surveyed 9 months after starting their residency to determine if they still believe they were appropriately prepared for residency, as well as what additional curricula could have been provided to better prepare them. In addition, residency program directors are polled during the first year of students’ training to determine if Mount Sinai’s students meet their expectations. Residency program directors universally concur that our students are well prepared to meet their program expectations.
To assure our Clinical Research students are competent at applying their knowledge and skills to transition successfully into the academic workforce, their clinical/translational research accomplishments (abstracts submitted and published; oral and poster presentations, awards, manuscripts submitted and published, and attainment of peer reviewed funding) are tracked. These objective measures assess successful realization of skills and transition to the academic workforce. In addition, a qualifying exam and dissertation for PhD candidates as well as the development and published submission of a thesis for Masters students is another method by which students are evaluated for their respective readiness and adequate knowledge acquisition for their careers. As described above, Clinical Research education programs are receiving new guidance through the efforts of NIH sponsored working committees. These committees are establishing standardized competencies needed to succeed in the workplace. MSSM’s clinical research leadership is actively working with each course director to link these competencies to their respective course offerings, practica, Masters Thesis or PhD dissertations and to revise their curricula accordingly.

The Genetic Counseling Program is a competency based program. After Graduation, the Genetic Counseling students sit for their certification examination, administered by The American Board of Genetic Counseling to demonstrate mastery of the required competencies. Mount Sinai’s program has an excellent pass rate on the certification examinations. Similarly to other MSSM educational programs, the genetic counseling students are monitored after graduation through both alumnae and employer based surveys to assess their success in transitioning to the workplace. Graduate achievements such as publications and abstracts, presentations at regional, national and international conferences, leadership activities, and clinical accomplishments are also tracked.

The process by which basic science PhD students defend their dissertations is designed to promote effective transition into the workplace. To ensure that a student’s dissertation demonstrates that he/she has the knowledge and skills to enter the workforce, the thesis defense examining committee consists of Mount Sinai Graduate Faculty as well as a faculty member from another institution who acts as an external examiner. Because of their intensive educational preparation and structured oversight throughout the process, it is rare that a student needs to make major modifications to the thesis at the final presentation stage. Thus, students who complete our PhD program appear to be well prepared to continue their training as post-doctoral fellows on their path towards a future in academia or to embark on a career in the pharmaceutical/biotech industry, teaching, intellectual property law, consulting, scientific journalism, or other fields.

Exit interviews are conducted with all basic science graduates to get data on their career plans. Alumni are often invited back to speak at annual retreats and graduate student-run career seminars that are supported by the Graduate School. This gives current students an opportunity to learn about alternate career paths, in addition to the traditional academic path, so that they can more effectively develop their own future career plans. Alumni career paths are an excellent measure of the success of the basic science PhD programs.
The Master of Public Health Program competency-based curriculum requires that students demonstrate achievement of pre-determined competencies in preparation for becoming members of the public health workforce. As noted earlier, the MPH Program’s competencies are adapted from the Council on Linkages Between Academia and Public Health, a body funded by the Centers for Disease Control and Prevention (CDC) and staffed by the Public Health Foundation, to further academic/practice collaboration to assure a well-trained, competent workforce and a strong, evidence-based public health infrastructure.

To confirm that Mount Sinai’s MPH curriculum was adequately preparing students for the public health workforce, the Program’s Curriculum Committee undertook a year-long iterative review involving every faculty member in order to evaluate which Council on Linkages competencies students were exposed to through course-work, practicum, and master thesis projects. Additionally, all students were surveyed to determine which competencies and at what level (aware, knowledgeable and advanced) they believed they had achieved during the first and second year in the program.

Utilizing this data, the MPH Curriculum Committee determined competencies for the overall Program and for each specialty track and made plans to improve areas which students and faculty identified as weak. In addition to coursework, students must identify, along with their mentors, those competencies addressed during their practicum and Masters thesis projects. As a requirement for degree completion, in collaboration with their academic advisor, students undertake two self-evaluations of their status toward achieving overall Program and specialty track competencies; the first review is at the end of the first year and the second is in the following year. Specialty track academic advisors help students attain the required competencies by assisting students in course selection, practicum experience and the masters’ thesis projects. Success in transition to the workforce is measured through exit, alumni and employer surveys.

In summary, all of the educational programs at Mount Sinai are well aligned with our institutional focus on translational science and our institutional commitment to cross-disciplinary learning and teamwork. Each program seeks to foster the intellectual growth of students so that they can continually seek, analyze and apply new scientific information to the practice of their fields and disseminate this to all stakeholders including patients, colleagues, students and the community. Each program promotes this through unique educational experiences specifically designed to provide students with the precise tools they need to achieve these skills. Unifying all programs is the strong institutional commitment to graduating students capable of fulfilling the institutional mission to excellent patient care, the education of physicians and scientists, the support of innovative research, the dissemination of knowledge, the good health of the community, and the creation of a work and learning environment conducive to individual creativity, career and personal advancement.
Conclusion

The Self-Study provided resounding affirmation that Mount Sinai School of Medicine (MSSM) is on a strong course for continued growth and excellence. Over the course of the review, we identified an abundance of evidence that the School does not merely meet the Middle States Standards for Accreditation, but often exceeds them.

The following summary describes how MSSM fulfills the Middle States expectations for an institution of higher learning with quality and commitment. In addition to confirming that the School meets all standards, this concluding section of the Self-Study Report also identifies opportunities for continued vigilance and improvement.

Standards 1, 2, 3 and 7
Mission, Planning, Resources and Assessment

MSSM has a well-defined mission of excellence in clinical care, education, research, scholarship, community service and workplace, and goals are driven by this mission. The School’s strong and intertwined planning, assessment and resource allocation processes support programs and practices that ensure our success in fulfilling our multi-part mission, enable us to respond to evolving internal and external factors, and draw upon fiscally sound decision-making.

Our planning processes are robust, inclusive and well organized. The Strategic Plan has been a major force guiding the academic directions of the School; the enthusiasm and energy generated by the Plan have fostered notable successes in our educational, research and clinical programs, thus allowing MSSM to satisfy its mission with distinction. The Center for Science and Medicine (CSM), the new building currently under construction, reflects our vigorous strategic, programmatic and capital planning efforts. CSM will help address our considerable need for incremental research, education and clinical space to accommodate current and planned program expansion. Although the new translational science building will provide much needed space, ongoing space planning and allocation efforts are essential to ensure that we can carry out our programs optimally.

The Strategic Plan and other planning efforts have resulted in a host of new initiatives in education, research and clinical care. It is imperative that the considerable efforts that the School already directs towards assessing programmatic and institutional success be extended to the evaluation of the many new initiatives that grow from the Strategic Plan in order to ensure that we continue to meet all components of our mission. The Dean, faculty, and administrative leaders are fully committed to extending the same rigorous assessment philosophy to new programs.

Constant assessment of programmatic and institutional goal achievement is integral to the MSSM management approach. Assessment activities are closely tied to ongoing planning efforts -- long and short-term, strategic and local -- and to the allocation of resources. The continuous planning and assessment cycle keeps the School leadership attuned to performance in all areas,
contributes to the identification of opportunities for improvement, and supports application of performance findings towards distribution of resources in ways that will have maximal impact.

The School’s ability to carry out its mission is greatly enhanced by the availability of excellent resources, including ample funding, facilities, personnel and information technology. Strong budget planning and monitoring provide a solid fiscal foundation for School operations and growth. With financial strength thus ensured, the allocation of resources is accomplished through rigorous planning and assessment and a well publicized set of criteria for performance and associated resource distribution. MSSM must continue to practice fiscal discipline to remain strong in the current difficult economic environment, with particular attention to sources of revenue (grants, clinical income, philanthropy, etc.) and aggressive oversight of expenses; based on current practices, there is every reason to be confident that this rigorous approach will continue.

Standards 4 and 5
Leadership and Governance; Administration
MSSM has a clearly defined governance structure which includes an independent, active Board of Trustees. The Dean and his staff provide support for and oversee planning and evaluation of the School’s programs and services. A network of departments and institutes headed by appropriately qualified leaders ensure that educational, research and clinical programs are carried out consistent with our goals and mission.

Establishment of the multidisciplinary institutes represents a positive change in the governance structure of the School in the past few years. An outgrowth of the Strategic Plan, the institutes complement the traditional academic departments, offer new resources and foster broad collaboration and cross-fertilization of ideas. The well integrated institute-department matrix model creates shared responsibility for faculty development and promotion. It will be important to monitor the career trajectory of faculty to verify that appropriate mentoring and other support are provided. Recruitment and retention of talented faculty must remain a high priority.

The recent reorganization of Board Subcommittees into separate committees for Medical Education and the Graduate School of Biological Sciences is another significant change in our governance structure. These separate committees allow for better oversight and more effective focus on the related but unique issues the programs confront. The Trustees are committed, interested and involved and work well with administration on the realization of our goals.

Standard 6
Integrity
MSSM practices and promulgates high ethical standards both within and beyond our institution. The School has a broad array of policies addressing integrity for students, faculty and staff and strives to apply policies in a fair and consistent manner. These include policies relating to integrity in student programs and services, professional conduct, academic integrity, fiscal integrity, integrity in research, human resources policies and conflicts of interest policies.
Our policies are dynamic and evolve to address internal and external circumstances. Nowhere is this clearer than in the conflicts of interest arena -- while the School has implemented strong policies and programs to address potential conflicts of interest, ongoing vigilance is needed to ensure that we can continue to be responsive to the rapidly changing climate.

**Standard 8**  
**Student Admission and Retention**

MSSM seeks to ensure that all programs admit clearly qualified candidates who have the necessary skills to succeed in their chosen degree program. In order to accomplish this goal, programs clearly articulate their admission standards and continually reassess admissions decisions based on student performance data. We are proud of the credentials and subsequent academic success or our students. Profiles of our admitted students show that they bring strong preparation to their studies, as evidenced by high test scores and GPAs as well as their prior research and clinical experiences.

The School provides access to institutional and federal financial aid. Students are supported through a network of financial aid and academic advisors who work with them to ensure that they receive information to identify and obtain appropriate financial aid opportunities. MSSM shares the AAMC concern regarding the significant debt burden of medical students upon graduation and has committed to new philanthropic initiatives which will significantly add to the School’s scholarship portfolio.

**Standard 9**  
**Student Services**

MSSM provides an array of services designed to support students in the achievement of their educational goals. As an outcome of our institutional assessment process, the School has integrated a number of student services with the goal of streamlining, increasing access and broadening the scope of our service offerings. Examples of unified services include student health, student mental health services, and disability services. School leadership recognizes that student access to support services is an important step towards ensuring that each student is successful; therefore, on an ongoing basis those in the student services areas actively evaluate the needs of the student body and assess the availability and quality of services which support those needs.

Student success requires appropriate support both within the classroom and across the School. Access to excellent student services contributes to the professional and academic development of the student body. The rate of growth across our MD and graduate programs, as well as the complexity of supporting multiple programs, is generating new infrastructure needs. To meet immediate needs, MSSM has committed to strategic improvements to the technical infrastructure which supports shared services. On-line services for admissions, registration, financial aid and billing are being implemented. In addition, the roll-out of a user friendly website allows students access to the information and transactions necessary to manage their educational experience and progress towards graduation. At the same time, a reevaluation is in progress of our instructional technology needs to identify and implement the most appropriate upgrades to classroom and educational technology.
Standard 10
Faculty
MSSM has a large and diverse faculty who play active roles in every aspect of our educational programs. While many faculty direct and teach the didactic offerings, others serve as preceptors, mentors and thesis advisors. In addition, there is strong faculty participation in student assessment and programmatic planning and review.

Recognizing the value and strength of MSSM teaching faculty is a high institutional priority. The appointment, promotion and tenure process includes consideration specifically for faculty who devote a significant amount of their effort to teaching, and provides opportunity for those whose primary function is teaching to achieve the rank of Professor. Support for teaching faculty is further reinforced by an impressive array of faculty development resources focused on the needs and future growth of our educators, thus ensuring a cadre of teachers who are well prepared to train our students and who possess skills that are aligned with the broader strategic direction of the School. We must continue to monitor the success of our efforts to support faculty as new initiatives are introduced.

Standard 11 and 13
Educational Offerings and Related Educational Activities
MSSM supports educational programs in accordance with our educational mission and our Strategic Plan; each degree-granting program is further guided by a defined set of goals which relate to student learning objectives, specific knowledge acquisition, and predetermined skills appropriate for that program; these include goals which align to our institutional focus on translational science. Each academic program ensures that its offerings are academically current, intellectually rigorous, and coherently delivered through an organized, iterative evaluation process.

Program Directors value comprehensive feedback and gather evaluative data from students, faculty, and Deans. That data is analyzed and integrated into course level redesigns, implemented when appropriate. Beyond our degree-granting programs, the MSSM continuing medical education (CME) division carries out its own organized planning and evaluation process for all CME activities.

MSSM’s degree-granting programs embed structured educational experiences which respect the institutional commitment to cross-disciplinary learning. The MSSM faculty embrace the notion of excellence and are committed to processes that ensure the highest level of education for our students.

Standard 14
Assessment of Student Learning
MSSM’s assessment efforts provide convincing evidence that the School fulfills its educational mission by training students for outstanding careers in medicine, biomedical research, public health and genetic counseling. The methods by which student achievement is measured are numerous and varied and the results confirm that educational programs are meeting
their own specific learning objectives. Educational offerings are reevaluated on a regular basis using direct evidence and competency based assessment which is further corroborated through indirect evidence of student learning. Results are subsequently used to make revisions. Values and skills that are required to transition effectively into the workforce, such as professionalism and collaboration, are nurtured and monitored.

Several of MSSM’s educational programs have professional oversight groups that provide specific direction and structure for how student and program assessment are to be conducted. These external review bodies may sometimes have different vocabularies related to learning objectives, goals, competencies and learning outcomes. Opportunity exists for MSSM’s programs to share best practices and to standardize approaches and nomenclature when desirable and practical.
If you’re interested in reviewing the appendices, please contact Keisha Reid in the Dean’s Office, Ext. 45080.