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Liaison Committee on Medical Education

TEAM REPORT
OF THE
SURVEY OF

UNIVERSITY OF MASSACHUSETTS SCHOOL OF MEDICINE

Worcester, Massachusetts

March 4 – 7, 2012

PREPARED BY AN *AD HOC* SURVEY TEAM

FOR THE

LIAISON COMMITTEE ON MEDICAL EDUCATION

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October 10, 2012

Robert L. Caret, PhD
President
University of Massachusetts
225 Franklin Street, 33rd Floor
Boston, MA 02110

RE: Full survey visit, March 4-7, 2012

Dear President Caret:

The purpose of this letter is to inform you of the determinations made by the Liaison Committee on Medical Education (LCME) at its October 2-4, 2012 meeting regarding the accreditation status of the medical education program leading to the MD degree at the University of Massachusetts Medical School and to transmit to you the enclosed report of the LCME survey team that conducted a full survey visit on March 4-7, 2012.

After reviewing the report of the full survey team, the LCME voted to continue accreditation of the educational program leading to the MD degree at the University of Massachusetts Medical School for an eight-year term. The program's next full survey will take place during the 2019-2020 academic year.

DETERMINATIONS REGARDING COMPLIANCE WITH ACCREDITATION STANDARDS

I. COMPLIANCE, WITH A NEED FOR MONITORING

The LCME determined that the medical education program is in compliance with the following accreditation standards, but that ongoing monitoring is required to ensure continued compliance:

A. *ED-1. The faculty of an institution that offers a medical education program must define the objectives of its program. The objectives must serve as guides for establishing curriculum content and provide the basis for evaluating the effectiveness of the program.*

Finding: UMMS has implemented the first two years of its new integrated, competency-based curriculum. The stated competencies and educational objectives guided the establishment of curriculum content and will provide the basis for

evaluating educational program effectiveness. A full evaluation of program effectiveness will not be possible until the educational program is completely implemented.

B. *ED-30. The directors of all courses and clerkship rotations in a medical education program must design and implement a system of fair and timely formative and summative assessment of medical student achievement in each course and clerkship rotation.*

Finding: During the self study year of 2010-2011 average time of the clerkship grades exceeded six weeks in six of the ten required clerkships. The data presented for the first half of the 2011-2012 academic year shows a definite improvement with all clerkships below six weeks; however, given the limited period of this follow-up survey, this should require more monitoring.

C. *ED-35. The objectives, content, and pedagogy of each segment of a medical education program's curriculum, as well as of the curriculum as a whole, must be designed by and subject to periodic review and revision by the program's faculty.*

Finding: Systems by which the faculty conduct periodic review of each segment of the curriculum, as well as the curriculum as a whole, are not yet developed completely for the new curriculum. Strategies by which faculty can review the objectives, content and pedagogy of individual courses and clerkships and of years of the new curriculum have been designed and implemented. Although the entire traditional curriculum was reviewed as the precursor to its redesign and renovation, the strategies for continuing, periodic review of the curriculum as a whole will not be designed until implementation of the new curriculum is completed in academic year 2013-2014. Progress in completing the design and installation of all aspects of a curriculum evaluation program should be monitored.

D. *ED-37. A faculty committee of a medical education program must be responsible for monitoring the curriculum, including the content taught in each discipline, so that the program's educational objectives will be achieved.*

Finding: The school has relied heretofore on a system to monitor curriculum content that is limited in its utility and flexibility. A new curriculum database system is being put into place and populated with the information necessary to conduct efficient reviews of content to determine if standards for content currency, relevance, appropriate redundancies, and gaps are being met. The efficacy of the new curriculum database in supporting appropriate content reviews should be monitored.

II. Noncompliance with Standards

The LCME determined that the medical education program is currently out of compliance with the following accreditation standards:

A. *IS-16. An institution that offers a medical education program must have policies and practices to achieve appropriate diversity among its students, faculty, staff, and other members of its academic community, and must engage in ongoing, systematic, and focused efforts to attract and retain students, faculty, staff, and others from demographically diverse backgrounds..*

Finding: UMMS has implemented many of the steps necessary to achieve appropriate diversity among its students, faculty, staff, and other members of the academic community. However, the school's expectations regarding diversity among the faculty, staff, and students are stated in 10 categories so broadly defined (e.g., nationality, languages spoken) rendering focused efforts to recruit and retain members of these categories difficult to achieve. Although focused programs have been developed to recruit and retain students who represent members of some of these groups, there was no evidence that focused programs for recruitment and retention have been developed and implemented for all of members of all ten categories across students, faculty and staff.

B. *ED-32. A narrative description of medical student performance in a medical education program, including non-cognitive achievement, should be included as a component of the assessment in each required course and clerkship rotation whenever teacher-student interaction permits this form of assessment.*

Finding: Fewer than half of the basic science courses provide narrative feedback, including those with small group sessions. Approximately 40% of the first year classes and 60% of the second year classes have narrative feedback.

C. *MS-27-A. The health professionals at a medical education program who provide psychiatric/psychological counseling or other sensitive health services to a medical student must have no involvement in the academic assessment or promotion of the medical student receiving those services.*

Finding: The educational policy committee recently approved a policy holding the director of a course or health delivery service responsible for the development of plans to ensure that health professionals who provide psychiatric/psychological counseling or other sensitive health services to a medical student must have no involvement in the academic assessment or promotion of the medical student receiving those services. The associate dean for student affairs is charged with oversight for the enforcement of this policy. Vigilance on the part of the associate dean for student affairs will be required to assure that plans are developed by all directors of courses and health delivery services, that each plan that has been developed is appropriate, and that each plan is implemented.

D. *ER-9. A medical education program must have written and signed affiliation agreements in place with its clinical affiliates that define, at a minimum, the responsibilities of each party related to the educational program for medical students.*

Finding: Wording contained in the majority of clinical affiliation agreements indicates that the "clerkship director" at the site is appointed by and reports solely to the president of the clinical affiliate. This wording is inconsistent with the accreditation standard regarding the primacy of the medical school over academic affairs and the education and assessment of medical students in those settings.

REQUIRED FOLLOW-UP

In order to address the compliance issues mentioned above, the LCME has requested that the dean submit a status report by **August 15, 2013** that includes the information listed below. Please refer to the following Web page for current LCME submission requirements: http://www.lcme.org/submission_status.htm.

I. COMPLIANCE, WITH A NEED FOR MONITORING

A. *ED-1 (educational program objectives)*

1. Describe the status of utilizing the educational program competencies and objectives in the evaluation of the segments of the curriculum or the curriculum as a whole.

2. Describe the steps taken to date to determine if students are achieving the desired outcomes of the new curriculum. Note how the results of such evaluations are being used in determining if any changes in educational program objectives or competencies are needed.

B. *ED-30 (formative and summative assessment)*

1. Provide a copy of the school's policy for the timing of clerkship grades.

2. Complete the following table for each required clinical clerkship during the 2011-2012 academic year and as much of the 2012-2013 academic year as is available.

Required clerkship	Average time (in weeks) for students to receive clerkship grades		Number (percent) of students who did not receive grades within six weeks	
	2011-12	2012-13	2011-12	2012-13

List clerkships or clerkship sites that are significant outliers.

C. *ED-35 (systematic review and revision of the curriculum)*

1. Describe plans for the review of segments of the curriculum and the curriculum as a whole, including when and how the plans are being developed and the timing of their implementation. Refer to information in the response to accreditation standard ED-1, if relevant.

D. *ED-37 (monitoring curriculum content)*

1. Describe the status of implementation of the E*Value database system.

2. Describe how the curriculum database system is being used to monitor curriculum content, including idetifying any gaps or content redundancies in the new curriculum. Provide examples, if available.

3. Describe how the curriculum database system will be used to support horizontal and vertical content integration.

II. NONCOMPLIANCE WITH STANDARDS

A. *IS-16 (diversity)*

1. Provide a copy of all current institutional (medical school and/or university) policies that are related to assuring a diverse student body, faculty, and staff.

   i. Describe the process by which these policies were developed, approved, and implemented at the institution.

   ii. Describe how these policies are made known to current and prospective applicants, students, employees, faculty, and staff.

2. Describe how the institution defines or characterizes diversity for its students, faculty, and staff. What dimensions of diversity are included in the definition of diversity for students, faculty, and staff? If different definitions apply to any of these institutional constituencies, provide each relevant definition.

3. Provide examples of focused programs that are directed at the recruitment and retention of students and faculty from each of the categories of diversity identified above.

B. *ED-32 (narrative feedback)*

1. List the courses in the first and second years of the curriculum where narrative feedback is provided to students. Note any changes from the time of the March 2011 full survey visits.

2. If there are courses with small group sessions or laboratory groups where narrative feedback is not provided, explain the reasons for its absence.

C. *MS-27-A (health care providers' involvement in student assessment)*

1. Describe the policy and the resulting systems that currently are in place to assure that faculty who provide sensitive health services to students have no role in student assessment or decisions about student progress.

2. Describe how faculty, residents, and students are informed about the policy.

3. Describe how the college of medicine assures that the system is functioning appropriately. How and by whom is compliance with the policy monitored?

D. *ER-9 (affiliation agreements)*

1. For each inpatient clinical teaching site used for required clinical clerkships, check if there is a signed affiliation agreement and if the agreement specifies the listed elements:

Clinical Teaching Site	Date of Signed Affiliation Agreement	Agreement Guarantees Student/Faculty Access to Resources	Statement of the Primacy of the Medical Education Program	Role of Medical Education Program in Faculty Appointment/ Assignment

Include a copy of the language in each agreement related to the appointment and reporting relationship of the clerkship director/site coordinator.

2. If not explicitly defined in the affiliation agreements, describe the mechanisms in place (whether formal or informal) at each site to ensure the medical school's authority to conduct educational activities for its students.

COMPLIANCE TERMINOLOGY

In reviewing the compliance determinations above, please refer to the attached memorandum for an overview of LCME compliance terminology and note the October 2011 implementation of a new category of compliance called *compliance, with a need for monitoring*, which indicates that the program is in compliance with the cited accreditation standard, but that monitoring is required to ensure continued compliance. A determination of *noncompliance* indicates that the program does not meet one or more of the requirements of the cited standard.

UNITED STATES DEPARTMENT OF EDUCATION REGULATIONS

The LCME is bound by the regulations of the United States Department of Education to document compliance with all cited LCME accreditation standards **within two years of a program's initial notification of noncompliance.** Therefore, the LCME will require timely follow-up on all determinations of *noncompliance*. Please see the "Required Follow-up" section above for details.

NOTIFICATION POLICY

The LCME is required to notify the United States Department of Education and the relevant regional accrediting body of all final accreditation actions, including determinations of "Accredited," "Accredited, with Warning," and "Accredited, on Probation." The LCME will also make final determinations of "Accredited" and "Accredited, on Probation" available to the public.

ACCREDITATION STANDARDS

To review the current list of LCME accreditation standards and their annotations, please refer to the most recent version of the *Functions and Structure of a Medical School* document, available on the LCME Web site at http://www.lcme.org/standard.htm. Programs asked to submit future status reports will be responsible for aligning the follow-up items in the report with the *Functions and Structure of a Medical School* document that is current at the time the status report is due.

CHANGES THAT MAY IMPACT ACCREDITATION

Accreditation is awarded to a medical education program based on a judgment that there exists an appropriate balance between student enrollment and the total resources of the institution, including faculty, facilities, and operating budget. If there are plans to significantly modify the educational program, or if there is to be a substantial change in student enrollment or in the resources of the institution such that the balance becomes distorted, the LCME expects to receive prior notice of the proposed change. Substantial changes may lead the LCME to re-evaluate a program's accreditation status. More specific information about notification requirements is available on the LCME Web site at: http://www.lcme.org/submission_significant_change.htm.

A copy of the survey report is being sent to Dean Terence R. Flotte. The survey report is for the use of the University of Massachusetts Medical School and the university, and any public dissemination or distribution of its contents is at the discretion of institutional officials.

Sincerely,

Barbara Barzansky, PhD, MHPE
LCME Co-Secretary

Dan Hunt, MD, MBA
LCME Co-Secretary

Enc (2): New Category of Compliance with LCME Accreditation Standards and Glossary of Compliance Terminology Memorandum

Team report of the full survey of the University of Massachusetts Medical School, March 4-7, 2012

CC: Terence R. Flotte, MD, Dean, Provost, and Executive Deputy Chancellor

LCME

LIAISON COMMITTEE ON MEDICAL EDUCATION

Memorandum

SUBJECT: New Category of Compliance with LCME Accreditation Standards and Glossary of Compliance Terminology

In its review of survey reports and follow-up status reports, the Liaison Committee on Medical Education (LCME) determines a medical education program's compliance with individual accreditation standards.

Historically, the LCME has used the terms *compliance* and *noncompliance* to describe a program's conformance with accreditation standards. At its June 2011 meeting, the LCME approved a third term called *compliance, with a need for monitoring*, which falls under the category of *compliance with accreditation standards* (implemented October 2011).The LCME also adopted formal definitions for the three compliance terms. These three terms are defined below.

COMPLIANCE WITH ACCREDITATION STANDARDS

Compliance:

The required policy, process, resource, or system is in place and, if required by the standard, there is evidence to indicate that it is effective.

Compliance, with a Need for Monitoring:

1) The medical education program has the required policy, process, resource, or system in place, but there is insufficient evidence to indicate that it is effective. Therefore, monitoring is required to ensure that the desired outcome has been achieved.

   OR

2) The medical education program is currently in compliance with the standard, but known circumstances exist that could lead to future noncompliance (*formerly "area in transition"*).

NONCOMPLIANCE WITH ACCREDITATION STANDARDS

The medical education program has not met one or more of the requirements of the standard: The required policy, process, resource, or system either is not in place or is in place, but has been found to be ineffective.

Updated October 2012

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MEMORANDUM

TO: Liaison Committee on Medical Education

FROM: The Secretary of the *ad hoc* Survey Team That Visited the University of Massachusetts School of Medicine on March 4-7, 2012

RE: Report of the Survey Team

On behalf of the *ad hoc* LCME survey team that visited the University of Massachusetts School of Medicine on March 4-7, 2012, the following report of the team's findings is provided.

Respectfully,

Nancy Alexander Koff

Nancy Alexander Koff, Ph.D., Secretary

INTRODUCTION

A survey of the University of Massachusetts School of Medicine was conducted on March 4-7, 2012, by the following *ad hoc* team representing the Liaison Committee on Medical Education (LCME):

Chair:

Barbara F. Atkinson, M.D. — Pathology
Executive Dean, UKSOM
Executive Vice Chancellor, UKMC
University of Kansas School of Medicine
Kansas City, Kansas

Secretary:

Nancy Alexander Koff, Ph.D. — Academic Administration, Educational Policy
LCME Field Secretary
Senior Associate Dean for Evaluation
University of Arizona
Tucson, Arizona

Member:

Steven Block, M.D. — Neonatology
Senior Associate Dean
Professor of Pediatrics
Wake Forest University School of Medicine
Winston-Salem, North Carolina

Member:

Jeffery L. Susman, M.D. — Family Medicine
Dean, College of Medicine
Northeastern Ohio Medical University College of Medicine
Rootstown, Ohio

Member:

Thomas E. Norris, M.D. — Family Medicine
Chair, Department of Family Medicine
University of Washington School of Medicine
Seattle, Washington

Student:

Emily Whitgob
LCME Student Member
University of California Davis
Davis, California

The team expresses its sincere appreciation to Dean Terence R. Flotte, MD and the staff, faculty, and students of University of Massachusetts School of Medicine for their many courtesies and accommodations during the survey visit. Dr. Michele Pugnaire, Mr. Ashton Gunn and Ms. Judith Olinder merit special recognition and commendation for their thoughtful visit preparations and generous support during the conduct of the survey.

A copy of the survey visit schedule is included in the Appendix.

SUMMARY OF SURVEY TEAM FINDINGS

DISCLAIMER: This report summarizes the findings of the *ad hoc* survey team that visited the University of Massachusetts School of Medicine on March 4 – 7, 2012 based on the information provided by the school and its representatives before and during the accreditation survey, and by the LCME. The LCME may come to differing conclusions when it reviews the team's report and any related information.

I. Institutional Setting

Institutional Strengths

The team identified the following area of institutional strength:

- Commonwealth Medicine is a non-profit division of UMMS dedicated to providing a wide range of clinical, research and consultative services predominantly to state governments in the areas of health care financing, delivery, and policy development. It is a unique resource, providing a source for additional medical school funds, opportunities for political interface and community outreach to special populations, and innovative outcomes and health policy research.

Areas in Compliance with a Need for Monitoring

None

Areas of Noncompliance

The survey team also noted the following item where it believes the school is not in compliance with specific accreditation standards at the time of the survey visit.

IS-16. An institution that offers a medical education program must have policies and practices to achieve appropriate diversity among its students, faculty, staff, and other members of its academic community, and must engage in ongoing, systematic, and focused efforts to attract and retain students, faculty, staff, and others from demographically diverse backgrounds.

Finding: UMMS has implemented many of the steps necessary to achieve appropriate diversity among its students, faculty, staff, and other members of the academic community. However, the school's expectations regarding diversity among the faculty, staff, and students are stated in 10 categories so broadly defined (e.g., nationality, languages spoken) rendering focused efforts to recruit and retain members of these categories difficult to achieve. Although focused programs have been developed to recruit and retain students who represent members of some of these groups, there was no evidence that focused programs for recruitment and retention have been developed and implemented for all of members of all ten categories across students, faculty and staff.

II. Educational Program Leading to the MD Degree

Institutional Strengths

The team identified the following area of institutional strength:

- The school has designed and implemented the first two years of a new integrated, competency-based curriculum. The manner with which this curriculum reform project was conducted is laudable, facilitating meaningful participation in both the design and approval of the new curriculum by all members of the academic community, including administration, departmental leadership, teaching faculty, clinical affiliate leadership, staff and students. The degree to which all of these constituencies feel engaged in the success of the curriculum reform is remarkable, due in large part to the creative application of principles of shared governance by the school's leadership.

Areas in Compliance with a Need for Monitoring

The survey team also noted the following items where it believes the school is in compliance with the specific accreditation standards but that ongoing monitoring is needed:

ED-1. The faculty of an institution that offers a medical education program must define the objectives of its program. The objectives must serve as guides for establishing curriculum content and provide the basis for evaluating the effectiveness of the program.

Finding: UMMS has implemented the first two years of its new integrated, competency-based curriculum. The stated competencies and educational objectives guided the establishment of curriculum content and will provide the basis for evaluating educational program effectiveness. A full evaluation of program effectiveness will not be possible until the educational program is completely implemented.

ED-35. The objectives, content, and pedagogy of each segment of a medical education program's curriculum, as well as of the curriculum as a whole, must be designed by and subject to periodic review and revision by the program's faculty.

Finding: Systems by which the faculty conduct periodic review of each segment of the curriculum, as well as the curriculum as a whole, are not yet developed completely for the new curriculum. Strategies by which faculty can review the objectives, content and pedagogy of individual courses and clerkships and of years of the new curriculum have been designed and implemented. Although the entire traditional curriculum was reviewed as the precursor to its redesign and renovation, the strategies for continuing, periodic review of the curriculum as a whole will not be designed until implementation of the new curriculum is completed in academic year 2013-2014. Progress in completing the design and installation of all aspects of a curriculum evaluation program should be monitored.

ED-37. A faculty committee of a medical education program must be responsible for monitoring the curriculum, including the content taught in each discipline, so that the program's educational objectives will be achieved.

Finding: The school has relied heretofore on a system to monitor curriculum content that is limited in its utility and flexibility. A new curriculum database system is being put into place and populated with the information necessary to conduct efficient reviews of content to determine if standards for content currency, relevance, appropriate redundancies, and gaps are being met. The efficacy of the new curriculum database in supporting appropriate content reviews should be monitored.

III. Medical Students

Institutional Strengths

None

Areas in Compliance with a Need for Monitoring

The survey team also noted the following item where it believes the school is in compliance with the specific accreditation standards but that ongoing monitoring is needed:

MS-19. A medical education program must have an effective system in place to assist medical students in choosing elective courses, evaluating career options, and applying to residency programs.

Finding: Systems to assist medical students in choosing elective courses, evaluating career options, and applying to residency programs have been designed and are being put into place in parallel with the structure of the new curriculum. A key component of these systems is the mentoring and advising that is only recently available through the learning communities program in the new curriculum. The survey team believes these systems are robust and should result in improved levels of career counseling and support, the data by which the effectiveness of the learning community mentors can be determined will not be available for several years and should be monitored. There is evidence that there is compliance but ongoing monitoring is required.

MS-27-A. The health professionals at a medical education program who provide psychiatric/psychological counseling or other sensitive health services to a medical student must have no involvement in the academic assessment or promotion of the medical student receiving those services.

Finding: The educational policy committee recently approved a policy holding the director of a course or health delivery service responsible for the development of plans to ensure that health professionals who provide psychiatric/psychological counseling or other sensitive health services to a medical student must have no involvement in the academic assessment or promotion of the medical student receiving those services. The associate dean for student affairs is charged with oversight for the enforcement of this policy. Vigilance on the part of the associate dean for student affairs will be required to assure that plans are developed by all directors of courses and health delivery services, that each plan that has been developed is appropriate, and that each plan is implemented.

Areas of Noncompliance

None

IV. Faculty

None

V. Educational Resources

Institutional Strengths

None

Areas in Compliance with a Need for Monitoring

None

Areas of Noncompliance

The survey team also noted the following item where it believes the school is not in compliance with specific accreditation standards at the time of the survey visit.

ER-9. A medical education program must have written and signed affiliation agreements in place with its clinical affiliates that define, at a minimum, the responsibilities of each party related to the educational program for medical students.

Finding: Wording contained in the majority of clinical affiliation agreements indicates that the "clerkship director" at the site is appointed by and reports solely to the president of the clinical affiliate. This wording is inconsistent with the accreditation standard regarding the primacy of the medical school over academic affairs and the education and assessment of medical students in those settings.

PRIOR ACCREDITATION SURVEY

The last full survey of the University of Massachusetts School of Medicine occurred on March 7 – 10, 2004.

The survey team identified the following institutional strengths:

- Chancellor/Dean Aaron Lazare has provided stable and effective campus leadership.
- There is a strong commitment throughout the institution to the educational goals of the school, excellent oversight of the educational program by the vice dean for undergraduate medical education, and clear recognition of educational contributions as criteria for faculty promotion.
- The research enterprise has grown substantially since the previous survey visit.
- Student satisfaction with their medical school experience is well above the national average.
- The collegiality of the faculty is remarkable, and positively impacts the ability of the school to enhance existing programs and manage the curriculum.
- The standardized patient program is nationally recognized for its excellence.

The survey team noted the following areas of noncompliance:

IS-12. A medical school should be a component of a university offering other graduate and professional degree programs that contribute to the academic environment of the medical school.

Findings: The educational program in the Graduate School of Biomedical Sciences has undergone significant growth since 2001. Assessment of the graduate program has involved, to date, only informal oversight by the dean.

ED-2. The objectives for clinical education must include quantified criteria for the types of patients (real or simulated), the level of student responsibility, and the appropriate clinical settings needed for the objectives to be met.

Findings: Most required third-year clerkships do not include quantified criteria for the types of patients, level of student responsibility, and appropriate clinical settings.

ED-7. The curriculum of a medical education program must include current concepts in the basic and clinical sciences, including therapy and technology, changes in the understanding of disease, and the effects of social needs and demands on care.

Findings: There are inadequate call room facilities for medical students on the surgery and internal medicine services at the University Hospital.

ED-25. Supervision of medical student learning experiences at an institution that offers a medical education program must be provided throughout required clerkships (or, in Canada, clerkship rotations) by members of the institution's faculty.

Findings: Some supervising physicians who provide teaching in the office-based community settings do not hold faculty appointments.

The survey team noted the following areas that were in transition:

- The Campus Modernization project, currently underway, will result in additional small group teaching rooms. This will address current difficulties in scheduling small group teaching space.
- St. Vincent Hospital, an important site for clinical education activities in all four years, currently is for sale.

At its meeting on June 2-3, 2004, the LCME continued accreditation for an eight-year term. The dean was requested to provide the following information in a report due by January 1, 2006.

- The process used to evaluate the seven PhD programs in the Graduate School of Biomedical Sciences.
- The numbers and types of patients required to meet the educational objectives of each required clinical clerkship.
- Information, by clinical department, on the faculty status of community-based preceptors.
- The availability and quality of call rooms for students rotating at the University Hospital in surgery and internal medicine.
- The status of creation additional small group teaching rooms as part of the Campus Modernization project.
- The participation of St. Vincent Hospital in the clinical education program, comparing the level in 2005-2006 with the time of the 2003-2004 survey visit.
- The steps taken to ensure that students have access to health care providers who have no responsibility for their evaluation or promotion.

STATUS REPORTS

Status Report Dated December 30, 2005
At its meeting on February 22-23, 2006, the LCME accepted the December 30, 2005 status report. An additional report was required to be due by September 1, 2007 providing: 1) the schedule for the review of graduate programs and a summary of the results of any completed reviews, 2) progress on implementation of UMEDS (UMassMed Medical Encounter Documentation System) in all clerkships and the quantified criteria for each clerkship, 3) results of monitoring call room usage during the clerkship in surgery and determination of the adequacy of the additional room.

Status Report Dated August 30, 2007
At its meeting on October 2-4, 2007, the LCME accepted the August 30, 2007 status report. An additional progress report, due September 1, 2008, was requested to include: 1) the status of and timetable for review of the Biomedical Engineering and Clinical and Population Health Research Programs and the status of the external review of the Basic and Biomedical Sciences Core Curriculum; 2) data for the 2007-2008 academic year on student compliance with the web-based or PDA entry of clinical log data and how student clinical encounters are being monitored to assure that the desired goals are being met; 3) student evaluation data on the adequacy of teaching and supervision in the surgery and neurology clerkships at Saint Vincent Hospital and how surgical residents from the Beth Israel Deaconess Medical Center program are being informed about the objectives of the surgery clerkship.

Class Size Increase Request Dated May 21, 2008
At its meeting on June 3-5, 2008, the LCME reviewed the school's May 21, 2008 letter regarding the enrollment increase planned for the fall 2008 entering class. It was determined that the LCME would review the completed *Template for Reporting Class Size Increase* at its next meeting on October 6-8, 2008.

Status Report Dated August 28, 2008 and Notice of Class Size Increase Dated September 3, 2008
At its meeting on October 6-8, 2008, the LCME reviewed the August 28, 2008 status report that addressed the following areas of noncompliance with accreditation standards: 1) review of all graduate programs and of the basic and biomedical sciences core curriculum (standard IS-12); 2) implementation of the UMass Medical Encounter Documentation System (standard ED-2); and 3) student satisfaction with the adequacy of teaching and supervision during the neurology and surgery clerkships at St. Vincent Hospital (standards ER-7 and ER-8). The LCME determined that the school had achieved full compliance with these standards, and no additional reports were required. The LCME also reviewed the completed template for reporting class size increases and determined that resources appear to be adequate for the class expansion from 103 to 114 students (ten in-state students and one M.D./Ph.D. student).

Class Size Increase Request Dated December 23, 2008
At its meeting on February 3-5, 2009, the LCME reviewed the December 23, 2008 letter that addressed a proposed class size expansion from 114 to 125 students. Although the LCME determined that resources appear to be adequate to support the planned increase in class size, it also determined that additional information was needed in several areas. Therefore, the LCME requested that the school submit an additional report by April 15, 2010, providing information about instructional facilities, student services, and the adequacy of clinical placements for the proposed class size.

Status Report Dated April 14, 2010
At its meeting of June 1-3, 2010, the LCME accepted the status report that addressed class size increase issues related to instructional space and facilities, the availability and utilization of student services, and the adequacy of clinical placements for core clinical training. No additional reports were required. The

survey team that will visit the medical school during the next full survey visit in the 2011-2012 academic year will be directed to explore medical students' usage of and satisfaction with core student services.

THE MEDICAL EDUCATION DATABASE AND INSTITUTIONAL SELF-STUDY

The medical education database, self-study summary, and related materials were received in ample time for the survey team to assimilate the information. The quality of the database was excellent, with full responses to database questions and a clear organization of the content. All quantitative materials were updated for the current year. Medical school administrators, faculty, and staff were very responsive to requests for additional information and clarification both before and during the survey visit. Participation in the self-study process was broadly-based, with participation on the self-study task force and accreditation oversight committee of faculty members, including senior and junior faculty, department chairs, and leaders of faculty committees; administration; staff; both medical students and a student from the Graduate School of Biomedical Sciences; a resident; senior university administrators; and a university trustee (see Appendix). The self-study summary report was comprehensive and detailed. It concluded with summary lists of institutional strengths and areas of growth, and a list of challenges and recommendations for improvement; because these challenges largely were not framed in terms of compliance with standards, the survey team's findings were not closely aligned with the summary of the self-report (see Appendix).

The independent student analysis is comprehensive and includes a very well written analysis (see Appendix). It was designed and administered by 13 students, divided into two teams. The core team, which was comprised of six students elected by the student body committee, was responsible for survey design and leading the analysis and writing of the report. The extended team was assembled to assist with data analysis and generation of the written report. The seven students who comprised this team were recruited via open solicitation to the student body as well as targeted recruitment by core team members. The survey gathered student opinion on a wide range of topics including relationships with administration; the learning environment; safety, harassment, and diversity; research and community service; financial aid, and health and counseling services; general curricular issues; the new curriculum, which was implemented in academic year 2010-2011; and the courses and clerkships. The survey garnered an overall response rate of 78%, or 380 of the active students (those not currently on a leave of absence). The results are used extensively throughout this report to represent student opinion regarding areas of the school discussed.

The results of the 2011 AAMC GQ also will be used throughout this report. The response rate was 86%.

HISTORY AND SETTING OF THE SCHOOL

(See Appendix for campus map)

The University of Massachusetts Medical School was established by the Commonwealth in July of 1962 and is the only state-funded medical school in Massachusetts. Founded by proclamation of the governor and an act of the legislature to meet the health care needs of the residents of the commonwealth, its mission is to advance the health and well-being of the people of the commonwealth and the world through pioneering education, research and health care delivery with its partner, UMass Memorial Health Care. UMMS is one of five campuses that make up the University of Massachusetts.

Although the location in Worcester as a campus of the University of Massachusetts was not selected until 1965, preliminary accreditation and the recruitment of core faculty during the construction process meant that the first class of 16 students entered in the fall of 1970, beginning their studies in a former

warehouse. By the time the first class graduated in 1974, the new medical science building was in use, followed by the teaching hospital, which opened in 1976. The growth of the school and its clinical system partner coincided with support for basic science research; by 1979 it had also established a PhD program in the biomedical sciences, which became a campus school in its own right, followed by the Graduate School of Nursing (GSN), which opened in 1986.

A period of expansion began in 1990 with the appointment of Dr. Aaron Lazare as Dean and, subsequently the chancellor, who became one of the longest-serving medical school leaders in the US by the time he stepped down in 2007. The campus entered a significant period of growth with the acquisition of the Worcester Foundation for Biomedical Research, the Massachusetts Biologic Laboratories and the spinoff of hospital operations into a new clinical system. A new research building opened in 2001 and the original medical school and hospital buildings were extensively renovated and expanded to include new meeting, educational, emergency and surgical spaces. For a time research funding grew faster than any other academic health sciences center in the country, fueled by recruitment of basic science faculty drawn to UMMS' prominence in several fields, including gene function and expression; gene development;

I. INSTITUTIONAL SETTING

See Appendix for the following documents:

- Summary of the strategic plan
- Current entry in AAMC Directory of American Medical Education and recent changes
- Organizational chart of relationship of UMMS to the university
- Dean Flotte's position description and brief resume
- Organizational chart for dean's office and information on dean's staff
- Enrollment in graduate programs in basic sciences
- Number of residents by specialty
- Diversity statistics
- Under-represented minority applicants
- First generation college matriculants
- Economically disadvantaged matriculants
- Matriculants by gender

A. Governance and Administration

The University of Massachusetts Medical School (UMMS) was chartered in 1962 as a not-for-profit university. It accepted its first medical school class in 1970 and is one of four allopathic medical schools in Massachusetts and the only public medical school in the commonwealth. Each of the five campuses in the University of Massachusetts system is separately accredited. UMMS was last granted full regional accreditation in 2002 by the New England Association of Schools and Colleges, with its next regional accreditation survey scheduled for October 2012. The Worcester campus is called the University of Massachusetts Medical School even though it also includes a graduate school of nursing and a graduate school of biomedical sciences (GSBS) (see Appendix for an organizational chart of the relationship of UMMS to the university).

The University of Massachusetts system is led by a president, Robert Caret, who was appointed in July 2011. Each of the university's five campuses is led by a chancellor who reports to the university's president (see Appendix). The chancellor of the campus, Michael F. Collins, who also serves as senior vice president for health sciences, assumed his position in September 2008. The chancellor oversees the strategic goals of the entire UMMS campus and is responsible for campus administration across all schools, immediate and long-range campus plans, campus expenditures, and the annual campus budget request.

The University of Massachusetts system is governed by a board of trustees appointed by the governor. The board of trustees of the University of Massachusetts system consists of 19 voting members appointed to serve five-year overlapping terms, and no member may serve for more than 10 years. Issues relevant to the medical school that go before the trustees for decision and vote include degree-granting courses of study, tenure appointments, borrowing of money, purchase of property, capital and operating budgets, endowment of chairs or professors, compensation and appointment of the chancellor, awarding of honorary degrees and invitations to commencement speakers, and revision of governance documents. The University of Massachusetts Trustee Code of Conduct indicates that trustees will comply with its Conflict of Interest Disclosure Policy for Trustees. The general laws of the commonwealth also address conflicts of interest of public officials. There is an annual questionnaire filled out by each trustee and all administrators regarding all potential and real conflicts. These are filed and reviewed on a yearly basis.

The *Governance Document* of the University of Massachusetts was last revised in 2006. The governance document and all academic personnel policies are located on the web pages of University of Massachusetts and UMMS. When faculty members are hired, they are provided with a hard copy of the policies by the office of faculty affairs.

Located in Worcester, Massachusetts on 63 acres 40 miles west of Boston, UMMS shares its campus with its primary teaching hospital and clinical affiliate, UMass Memorial Medical Center (UMMMC). The hospital was once a component of the university system, but in 1998 the hospital and practice plan were merged to form a separate nonprofit corporation, UMass Memorial Health Care (UMMHC). UMMHC has grown to include five hospitals and is the largest health care provider in Central New England (See Appendix). The medical school also partners with more than a dozen community hospitals and clinics that serve as clinical training sites.

The medical school dean, Terence Flotte, MD, reports to the chancellor. He also serves as provost and executive deputy vice chancellor for the campus. In his executive deputy vice chancellor role he relates to the physician practice group, UMass Memorial Medical Group (UMMMG), and works with the health system and UMass Memorial Hospital, the tertiary care hospital of UMMHC. There are five members of the board of directors of UMMHC, including the chancellor, dean and three other representatives from the school of medicine. The dean also is a member of the practice plan's board of directors. This relationship

has gone very well since there was a reorganization of the medical group in 2010. There is not a vice president for health affairs or its equivalent.

Dr. Flotte joined UMMS in May 2007 from the University of Florida, where he was the Nemours Eminent Scholar and chair of the department of pediatrics for the College of Medicine. He received his undergraduate degree in the biological sciences from the University of New Orleans in 1982, and his medical degree from the Louisiana School of Medicine in 1986. After serving his residency in pediatrics at The Johns Hopkins University, he completed a pediatric pulmonary fellowship and postdoctoral training in molecular virology there in 1992. He then joined the faculty of the University of Florida and was appointed associate director of UF's Powell Gene Therapy Center. In 2000, he was named director of the Powell Center and founding director of the newly established UF Genetics Institute, a cross-campus multidisciplinary unit encompassing gene therapy, human genetics, agricultural genetics, and comparative genomics. In 2002, he stepped down from these roles to accept the position of chair of the Department of Pediatrics. An internationally known pioneer in human gene therapy, Dr. Flotte currently is investigating the use of gene therapy for genetic diseases that affect children, mainly cystic fibrosis. He is very well qualified to be the dean at UMMS and his background in genetics research has led to the research strategy that has been highly successful at UMMS (see Appendix for Dean Flotte's position description and brief resume).

The separation of responsibilities between the dean and chancellor occurred with the appointment of Dean Flotte in 2007. It has allowed the dean to focus on the academic missions of the medical school and bring new energy and new initiatives to the education and research enterprises. As a part of this realignment, the dean reclassified reporting relationships for research, education, faculty affairs, and clinical affairs to create a mission-based administrative model for the medical school. In 2007, the appointment of a senior associate dean for educational affairs placed the oversight of the medical school educational mission under one office, spanning the medical education continuum across admissions, student affairs, undergraduate medical education, graduate medical education, continuing education, and allied health education. Other new positions since 2007 include the associate dean for undergraduate medical education, who oversees the curriculum and the office of undergraduate medical education, and the senior associate dean of clinical affairs, who functions as an important bridge with the health care system. This administrative structure has supported the development and implementation of the new curriculum (which will be discussed in detail in the educational program section of this report), expansion of educational resources for teaching, and the addition of new educational affiliates to meet the needs of an increased class size. In total, 15 assistant and associate deans report to the dean, and the structure appears to be adequate and effective, according to the self-studies of both the faculty and the students. In the independent student analysis, 85% of respondents agreed or strongly agreed that deans and administrative leaders were accessible, and 81% of respondents agreed or strongly agreed that administration (student affairs, undergraduate medical education, registrar, educational affairs) helps resolve students' issues and concerns; only 2% and 3%, respectively, of respondents disagreed or strongly disagreed regarding the accessibility and helpfulness of administration.

Seven basic science department chairs and 15 clinical department chairs also report to the dean and are involved in institutional planning, with recent initiatives including the construction of the 512,000-square-foot Albert Sherman Center for medical education and gene research, opening next year, and the implementation of the medical school's new curriculum. Appointment as departmental chair is for an initial five-year term, with annual renewals possible thereafter; there are no renewal limitations. Each basic science chair is reviewed annually by the dean; each clinical chair is reviewed annually by both the dean and the CEO of UMass Memorial Health Care. The chair develops and submits a summary of the prior year's work including professional accomplishments as well as departmental accomplishments. The chair also develops and submits goals for the coming year at an individual and departmental level. Goals are developed in alignment with the institutional strategic plan goals. In addition, there is an outside

review of the performance of the department every five years. It is conducted by a panel of three individuals with one selected by the chancellor, one selected by the CEO and one selected by the department chair (see Appendix for an organizational chart of the dean's office and information on the dean's staff).

In the latest update of the database (2/17/12) three departments were being served by interim chairs including radiology (interim chair appointed in July 2007), ophthalmology (interim chair appointed in March 2011), and otolaryngology (interim chair appointed in July 2011). A new chair for the department of radiology was announced the week of the survey team visit and was present at the team's meeting with department chairs. The future of the departments of ophthalmology and otolaryngology is being evaluated prior to starting a search for new chairs.

Departmental budgets appear to be adequate to generous and sufficient to achieve institutional goals. Department chairs, through delegation of the dean, are responsible for the expenditure and budgetary control of unrestricted funds allocated to their departments. Extramural research or other grants and contracts the ultimate purposes of which are defined by external parties are classified as restricted funds. Budgetary control and expenditure approval of restricted funds are the responsibility of the principal investigator on each grant. All expenditures are centrally monitored for compliance with state, university and campus fiscal policy and for restricted funds with the terms of the grant or contract. A base amount is determined by actual teaching activities and 50% of all indirect research dollars is returned to the department to support other activities. These dollars may be used at the discretion of the chair for further development of programs, activities, and research in the department. The dean also allocates discretionary funds based on requests to enhance the missions of the department. Special funding requests are awarded based on merit and need, subject to the availability of funds. There are currently $12,686,642 of reserves in the basic science departments and $16,454,580 in the clinical departments. The clinical reserve does not include money held in the medical group and system for the use of clinical development as backup for the clinical enterprise.

B. Academic Environment

Graduate Programs

The division of basic and biomedical sciences (BBS) in the Graduate School of Biomedical Sciences (GSBS) includes programs in biochemistry and molecular pharmacology; bioinformatics and computational biology; cancer biology; cell biology; cellular and molecular physiology; immunology and virology; interdisciplinary graduate program; molecular genetics and microbiology, and neuroscience. The division of clinical and translational sciences, also in the GSBS, includes a master of science in clinical investigation (MSCI). Medical students who are accepted in the clinical and translational research program may apply for this five-year option, the goal of which is to develop young researchers as clinical investigators; six students enrolled in the program when it began in 2008, with five students graduating to-date. The programs are funded as part of the general funding of the departments for their education and research mission support; funding is adequate to support these graduate programs. In 2010-2011, five students were enrolled in master's degree programs and 439 students were enrolled in doctoral programs in the biomedical sciences (see Appendix for enrollment in graduate programs in basic sciences).

Graduate programs are reviewed annually, using the four areas of student enrollment and outcomes; curriculum and curriculum evaluations; faculty; and services to the graduate school of biomedical sciences (GSBS) as criteria. After review by the GSBS dean and associate deans, the evaluation is forwarded to the provost, and program directors and department chairs via the graduate council. It also is

reviewed by the graduate council's standards and curriculum subcommittees; these subcommittees report back to the graduate council with specific recommendations. Program-specific recommendations approved by the graduate council must be addressed within two semesters by the program's leadership in a three-step program. In March 2009, an external review of the core curriculum showed satisfactory outcomes and that content and pedagogy were consistent with the GSBS mission. Chairs feel these reviews are constructive and adequate. In addition to the annual program review process, the GSBS will conduct comprehensive program-wide five-year reviews, the first of which is scheduled for January 2014. The five-year review process will include all GSBS academic programs and their contributions to the advancement of science and the development of a diverse, health sciences workforce.

The MD/PhD program now had 57 students in 2009-2010, a 300% growth since 2003. Students are accepted separately into this program. Up to five of the 11 students selected each year may come from out of state while MD students must all be from within the state. A review of the curriculum for this program occurred with the implementation of the new medical school curriculum; the timing of the start of the core clinical experience has made it easier to fit a 12-week clinical rotation for students prior to their start of the research experience.

Since the last LCME accreditation, growth in the MD/PhD, CHPR and other clinical and translational science programs encouraged the creation of a new position, associate dean for clinical and translational sciences; the director of the MD/PhD program was appointed to this position in 2008. Planning is underway for a medical science training program application. Two new programs also have been established: the clinical and translational research pathway for medical students and the clinical scholars program for residents and clinical fellows.

UMMS also has a graduate school of nursing with 144 master's degree students and 50 doctoral students. Medical school faculty contribute to this educational program, although these demands do not negatively affect resources for medical student education.

Graduate Medical Education and Continuing Medical Education

UMMS is the sponsor of the 62 ACGME-accredited residency and fellowship programs at UMass Memorial Medical Center (UMMMC); in 2010-2011 there were 428 residents and 100 fellows in training. The associate dean for GME, an administrative director for GME and an office of GME provide day-to-day oversight and support of GME programs. UMMS was awarded full institutional accreditation in 2011 for a five-year cycle. The quality of the programs and the internal reviews are the responsibility of this office in conjunction with a review by a very strong and active GME committee and the dean. No programs are on probation. Five affiliated hospital sites sponsor their own residency programs (see Appendix for a chart of residents by specialty).

Although several sites used for clerkship rotations do not also have residents, all of the major clerkship sites have residencies in most areas and clerkship students assigned to UMMMC work with residents in all clerkships. Those sites without residents working in the clerkships include the following: one of five internal medicine sites, four of six of obstetrics and gynecology sites, three of six psychiatry sites, and three of five neurology sites. All student rotations are monitored so that no student has a majority of experiences without resident supervision.

At UMMMC and at each of the three major educational affiliates (i.e., Saint Vincent Hospital, Berkshire Medical Center, Milford Regional Medical Center) an associate dean is responsible for clinical affairs, GME, and continuing medical education (CME). The ACCME has granted accreditation of the CME program at UMMMC for three years, with the next review in 2013; it has granted accreditation of the

Lahey Clinic for four years, with the next review in 2013. Medical students are expected to attend CME programs including grand rounds and other special activities during their clerkships. There are over 100 individual events each year.

Research

Research is a priority of the medical school, resulting in a productive research enterprise that has nearly doubled since 2004, from $163 million at that time to $307 million in total funding for FY11. Since 2007 one of the strategic priorities in research has been building clinical and translational research, with the award of a CTSA in 2010. A new department of quantitative health sciences was established, which now has 35 faculty members, most newly recruited. It has components to support informatics, biostatistics, health disparity and epidemiology research, and outcomes research. Other aspects of the CTSA grant include a RNA therapeutics institute, a center for stem cell biology, and a center for regenerative medicine and gene therapy, all areas in which the dean is an expert. There is a robust research infrastructure supporting this effort. A vice provost reports to the school of medicine dean in his role as provost, with two associate vice provosts and one assistant vice provost reporting to the vice provost.

As seen in the finance section of this report, there is excess revenue from a variety of health-related business and this revenue is used to invest in new faculty, facilities, and infrastructure for research. This investment has been well managed with productive groups being recruited. There are now 41 core facilities supporting research; 13 of these were added in the last eight years.

There are substantial departmental incentives for research. Half of all of the research indirect cost is returned to the department. There are individual incentives for faculty through their department for travel and equipment, and for departments to recruit additional faculty members with the approval of the dean. Each of the departments has a research program. The basic science departments all are heavily funded and most of the clinical departments have substantial research involvement, particularly in the clinical and translational areas.

The number of medical students who participate in research during their education has grown steadily since 2004-2005, as indicated by data from the 2011 AAMC GQ of the percentage of graduating students who participated in a research project with a faculty member during their undergraduate medical education:

	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
% participation	45.1	44.6	57.4	53.3	51.9	60.0	59.5

This is not currently a required experience; however, when the new curriculum advances to the fourth year for the entering class of 2015, there will be a required capstone project that could involve either basic research or clinical and translational research. A number of research opportunities currently are available for medical students:

- The **MD/PhD** program combines the educational curriculum of the school of medicine and GSBS, and is designed to integrate the medical and graduate school curricula throughout the MD/PhD students' training. A special graduate program, biomedical sciences, was created specifically for MD/PhD students and offers research training in either basic medical sciences or in clinical and population health research. The total number of MD/PhD students accepted into

the program each year has increased from five students in 2005 to 11 in 2011. The total number of applicants to the program has also increased, from 31 in 2003 to 131 in 2011.

- In the **senior scholars program** fourth year medical students earn elective credit by devoting two or more months to a basic science, clinical or epidemiology-based project under the guidance of a faculty mentor. Application to the program includes the title of a research proposal, its objectives and the anticipated forum for presentation of the project. Students whose proposals are accepted are required to present a poster at "Senior Scholars Day." Senior Scholars who have an abstract accepted for presentation, either poster or oral, at a regional or national meeting are provided a stipend of up to $500 to support attendance at the meeting. During the past eight years, a total of 145 students have participated in the program.
- The **summer research fellowship program** is designed to develop student skills in research and to cultivate interest in the inclusion of research in their careers as physicians. Medical students are encouraged to participate in the summer research program during the summer between the first and second years. Faculty mentors provide projects for which students are paid to work during an eight-week period in the summer; more than 20 projects are offered for student participation, with the number of project options increasing each year. In academic year 2009-2010, 24 students participated in the program, representing 21% percent of the first year class.
- The school launched the **pathway on clinical and translational research** in 2007. This program provides training in clinical and translational research through a longitudinal core curriculum and a required research experiences in the summer after the first year of medical school, as well as in the fourth year through the senior scholars program. Pathway students join the summer research fellowship program during the summer following their first year for an eight-week mentored research experience with a senior researcher on the faculty. The program provides a $3000 stipend to each student and supports travel to present the research at national meetings. Students who successfully complete the program are awarded a 'Certificate of Training in Clinical and Translational Research." Enrollment is limited to 12 medical students in each entering class and it is based on a competitive selection process. On average, 40-50% of applicants were accepted for this program. There are currently 44 students enrolled across all four years.
- All students who are accepted into the clinical and translational research program have an opportunity to apply for the **Master of Science in Clinical Investigation – Five Year Program Option**, which builds on the pathway core requirements and includes an additional year to enroll in the master's degree in clinical investigation program in the GSBS. Students receive a tuition waiver for the fifth year of study and a modest stipend ($12,000) is provided during the research year by the office of research.

In addition to these programs, several electives are available that include training in research-related skills. The office of undergraduate medical education (OUME), often in collaboration with the office of research, manages most of these programs and coordinates the timely notification of students of opportunities to participate in research. This is done by e-mail, school orientation events, brochures, and annual calls for participation. All programs also are listed on the OUME website. Well-publicized and well-attended poster presentations also provide students with information about opportunities to participate in research.

Service Learning

The school's "classic" curriculum included a required "community health clerkship", part of the physician, patient and society I course and sponsored by the department of family medicine and community health. First-year students were placed in Massachusetts communities to conduct community assessments. The goals of the experience were for students to understand how to characterize and improve the health of specific populations; to learn about the network of services that are available; and to learn

about agencies that advocate for the population. Students kept a reflective journal of their experiences, and were prepared for the immersion experience through lectures and small group meetings. Students also completed a population health template and presented highlights of their experiences to community leaders, faculty, and students at a poster session and presentation. Some of the ongoing community service projects that were developed through the clerkship include a free clinic (Akwaaba Clinic) for African immigrants, an education center for inner-city children (the Center for Healthy Kids) and an African Community Education program that runs a Saturday school for African immigrant children.

With the implementation of the Learner-centered Integrated Curriculum (LInC), the clerkship has been renamed as the "population health clerkship" and moved to the second year of studies as part of the determinants of health course. In academic year 2011-2012, all year-two students participated in two weeks of the clerkship in the fall, after learning the fundamentals of epidemiology and biostatistics. In conjunction with the new curriculum, the clerkship has been revised to reflect a robust service-learning approach with learning, service, and service-learning objectives and objectives that reflect the characteristics and needs of the populations on which the students will be focusing. Students work with community preceptors to diagnose a population's health, explore potential evidence-based interventions to promote health, and develop plans for advocacy. Retaining the inter-professional element of the students' medical education introduced in 2005, Graduate School of Nursing students are included in the approximately 25 small groups that make up the clerkship students. The experience continues to culminate in a poster session.

The school offers other programs in which students can learn about serving underserved populations, including:

- The goal of the optional enrichment elective *Pathway on Serving Underserved Multicultural Populations* program, part of the "multicultural pathway program," is to develop the abilities of students to provide culturally competent care for increasingly diverse populations of patients in the Commonwealth of Massachusetts and beyond, including immigrants and refugees. Through a competitive application process, medical students are accepted into the Pathway at matriculation and continue in the program for the duration of medical school. The program includes a core curriculum along with both international and domestic placements. A cornerstone of the program is an international experience in countries reflective of immigrant populations in Massachusetts that takes place in the summer after students complete their first year and again in the fourth year as an elective. Students also are assigned to local immigrant families to learn about cultural and health beliefs, hardships faced in immigration and about experiences with health care here and in their homelands. During the preclinical years, students participate in a local community service project with an immigrant group during which students can continue to develop second language skills. Students in the pathway are given priority to do a family medicine clerkship in a community health center or a rural health center. Through the international medical education program, the school provides student stipends for pathway students, supporting international travel and language immersion courses as well as programming expenses. Currently, 95 students are enrolled. During the past eight years, 680 students have participated in the program. Pathway students have become the leaders of some of the community service projects and recipients of prestigious international health scholarships (e.g., NIH Fogarty Fellowship, Schweitzer Fellowship).

- The *Rural Health Pathway* program provides students the opportunity to learn about practice in rural communities. Participating students are placed in rural communities for their required community health clerkship and other clinical rotations. Since its inception, 29 medical and five Graduate School of Nursing students have graduated from the Rural Health Pathway. An additional 20 medical and nine nursing students currently participate in the program.

- In the *Summer Service-learning Assistantship* nine to 11 rising second-year students are placed in health and human service agencies throughout Massachusetts. Students spend four to six weeks at agencies working on projects developed jointly based on student interests and agency needs. Students complete a reflective journal; attend bi-weekly discussion sessions and present highlights of their work at a poster session in the fall. Some stipend support is available to the students.

Diversity

The board of trustees of the University of Massachusetts delegates its responsibility for enforcing compliance with federal and state laws to the chancellor at each of its five campuses. Appointed by the chancellor of UMMS, the associate vice chancellor for diversity and equal opportunity (AVCDEO) serves as the chief diversity officer; the AVCDEO is responsible for the development, maintenance and monitoring of the affirmative action plan and diversity and inclusion efforts, and implementation of diversity policies at the medical school. In 2010, the AVCDEO was charged by the chancellor to conduct an audit of campus-wide diversity efforts and propose an overall diversity plan consistent with the UMMS strategic plan. The UMMS *Diversity Mission Statement* was developed through a collaborative process, with a draft presented to and approved by such groups as the Council on Equal Opportunity and Diversity, Women's Faculty Committee, Department Chairs Council, Executive Leadership Council, and the nine committees of the Council on Equal Opportunity and Diversity. In 2009, the dean/provost convened an Educational Diversity Initiatives Committee (EDI) to review and revise diversity policies for the School of Medicine, Graduate School of Nursing, and Graduate School of Biomedical Sciences and align these policies with the UMMS *Institutional Plan for Diversity*. The EDI Committee worked collaboratively with the Diversity and Equal Opportunity Office and human resources to develop institution-wide race and ethnicity categories, determined underrepresented group categories for UMMS and defined diversity categories for faculty, staff and students. The final version of the UMMS *Diversity Mission Statement* was approved and adopted at a retreat attended by the chancellor, Dean and Provost Flotte and 24 of the UMMS diversity leaders.

The dimensions of diversity as determined through this process are outlined below. While the definition for each diversity category remains consistent across faculty, staff, enrolled students, and Worcester Pipeline Collaborative (WPC) students, the categories applicable to any given constituency vary according to the stakeholder group as indicated in the table below (see Appendix for tables of diversity statistics).

Diversity Category	Faculty, Post-Docs, Residents	Staff	Students	Worcester Pipeline Collaborative (WPC)
Race/Ethnicity	✓	✓	✓	✓
Nationality	✓	✓	✓	✓
Gender*	✓	✓	✓	✓
Age	✓	✓	✓	✓
Languages Spoken	✓	✓	✓	✓
Veteran Status	✓	✓	✓	✓
Socioeconomic Status		✓	✓	✓
Educational Background		✓	✓	✓
Religion			✓	✓
Environmental Factors			✓	✓

✓ Diversity category is applicable

* Includes gender identity and sexual orientation

Definition of diversity categories:

- **Race:** Group identity related to local geographic or global human population distinguished as a group by genetic physical characteristics, such as skin color, hair texture, and facial features.
- **Ethnicity**: Shared cultural heritage, such as place of birth, language, customs, etc. refers to classifications of humans into populations or groups based on various factors, such as their culture, language, social practice or heritable characteristics.
- **Nationality**: A group identity based on the nation from which a person originates, regardless of the nation in which he or she resides.
- **Gender**: The behavioral, cultural, and psychological traits typically associated with one's biological sex. Gender diversity includes both gender orientation and sexual orientation are defined below:
- **Gender Identity:** Self or internal identification as male or female, regardless of biological sex.
- **Sexual Orientation:** An identity based on emotional, romantic, and sexual desires determined by a person's primary sexual attraction.
- **Age:** A group identity based on the chronological number of years since a person's birth.
- **Languages Spoken**: The ability to be able to communicate in one language or more.
- **Socio-economic Status**: Socio-economic status refers to criteria such as income, amount of education, type of occupation held, or neighborhood of residence.
- **Veteran Status**: A veteran of the U.S. armed forces who is entitled to compensation (or who but for the receipt of military retired pay would be entitled to compensation) under laws administered by the Secretary of Veterans Affairs, or a person who was discharged or released from active duty because of a service-connected disability.
- **Educational Background**: Educationally relevant factors in their biographical data, such as their own educational attainment level and their parent's educational background.
- **Religion:** An organized belief system based on certain doctrines of faith or a belief in a Supreme Being or God.
- **Environmental Factors**: Conditions related to an individual's lived experience that contributed to observed disparity on a number of education measures.

To promote retention of a diverse medical school class, a prematriculation program ("Jump Start") has been in place since academic year 2010-2011, which is designed to provide supplemental academic content and preparedness for entering students who may be at risk for academic difficulty (e.g., those who are first-generation college attendees, under-represented minority groups). Retention programs are supported through the office of student affairs assistant dean for student affairs/diversity support in partnership with the diversity and equal opportunity office (DEOO) and chief diversity officer for the campus. Examples of some of the programs intended to support the needs of a diverse student body include workshops on career decision-making; faculty advising for the Student National Medical Association (SNMA); collaboration with the DEOO in launching *Mentoring Circles* and the sponsorship of the Resident Recruitment Program, which supports the recruitment of diverse residents to UMMS GME programs; annual social events that familiarize students with resources, programs, mentoring and other key contacts organized by the DEOO with the help of minority faculty. The diversity and equal opportunity office sponsors "mentoring circles" that provide a diverse group of medical students and residents exposure to faculty for informal dialogue, mentoring, and learning across the circle. Student-led and school sponsored interest groups also help to promote retention of diverse students at UMMS, including QMass, (the gay, lesbian, bi-sexual and transgendered support group at UMMS), a variety of optional enrichment electives serving multi-cultural and disadvantaged populations, the American Women's Medical Association, American Sign Language Group, the Latino Medical Student Association, Asian Community Outreach Group, the Student National Medical Association, and the Disability Interest Group.

There are two scholarship programs (*The Incentive Scholarship* and the *Scholarship for Disadvantaged Students*) that the financial aid office administers that consider factors beyond economic need; in both programs, family economic need is the first criterion for eligibility. The *Incentive Scholarship* is an institutional scholarship based on the following criteria: an economically-disadvantaged background; first generation college student; underrepresented minority, and post-baccalaureate program participation. A student awarded this scholarship is eligible to have the scholarship renewed annually as long as he/she maintains academic standards outlined in the award. Recipients of the *Scholarship for Disadvantaged Students,* funded by the US Department of Health and Human Services (HHS), need to be economically disadvantaged as defined by HHS or come from a disadvantaged background as defined by the institution. The criteria include graduation from a low performing high school as determined by SAT score reports, or residence in a medically underserved area as determined by HHS. From 2007 through 2011, between 62% and 85% of "disadvantaged" applicants received institutional gift aid compared to between 32% and 48% of the total group of students applying for financial aid (see Appendix for financial aid statistics for disadvantaged students and under-represented minority students).

UMMS has developed a variety of required educational experiences to ensure the training of medical students in areas such as cultural competency, health disparities, gender development and sexual orientation. Two of these curricular programs are the *Multicultural Interclerkship* and the *Disabilities Interclerkship,* both of which are part of the interclerkship curriculum scheduled during the clerkship curriculum. The multicultural interclerkship includes such topics as the challenges of immigration; medical concerns of the GLBT community; the intersection of health disparities, socioeconomic status and cultural barriers to care in the emergency department; and culture and mental health. The disabilities interclerkship covers such topics as sexuality and people with cognitive disabilities; the physician's role in special education decisions; the physician and the patient with spinal cord injuries as partners in care; and caring for the adult patient with intellectual disabilities. In the *Determinants of Health* course, students participate in lectures and small group experiential learning to study health care disparities and inequities in health status as a function of group membership; topics include stereotyping in medicine and health disparities. Similar topics are discussed in the *Doctoring and Clinical Skills* course. Students also participate in a *Population Health Clerkship* in which they investigate a public health problem in the Worcester community or statewide; the problems studied by many of the small groups reflect domains of

diversity, including such problems as Latinos living with HIV; refugee mental and physical health; urban working poor and incarcerated; housing deprivation; food insecurity; and adolescent obesity in rural settings. In addition, the school offers the optional enrichment elective *Pathway on Serving Underserved Multicultural Populations* program, *Rural Health Pathway,* and *Summer Service-learning Assistantship*; all of these programs were discussed earlier in this section of the report. In the independent student analysis, 86% of respondents agreed that UMMS had prepared them for providing appropriate and culturally sensitive care for patient from different racial/ethnic/cultural/religious backgrounds; 75% of respondents agreed that they were prepared to providing appropriate and culturally sensitive care for patient in the LGBT community; and 87% agreed that they had a good understanding of social determinants of health, such as socioeconomic status and racial health disparities. In the 2011 AAMC GQ, 95% of respondents (83% nationally) rated the instruction in culturally appropriate care for diverse populations to be adequate.

The *Minority Academic Advancement Committee (MAAC)* of the *Council on Equal Opportunity and Diversity* supports the *Faculty Diversity Scholarship Program*, a research fellowship to support the recruitment and career advancement of faculty from diverse backgrounds underrepresented in the health sciences. Since 1997, there have been ten participants in the program; seven have successfully completed the program and four scholars have remained on the UMMS faculty. The *UMMS Faculty Scholar Award* was created by the *Women's Faculty Committee* and the *Women's Leadership Work Group* and funded jointly by UMMS and UMass Memorial Medical Center to help increase the diversity of faculty and to increase the representation of women at the higher faculty ranks by providing financial assistance to women faculty to continue research and scholarly efforts during periods of increased family care responsibilities. The award program began in 2011 and has granted three awards. Faculty commitment to diversity is noted in their annual reviews; this commitment can be demonstrated in a number of ways including participating on the Council on Equal Opportunity & Diversity or one of its subcommittees, the Women's Faculty Committee, or in one of the program aimed at enhancing student body diversity; serving as a mentor to a woman or person of color on the faculty; engaging in research on health disparities; supporting/advising/collaborating with the Student National Medical Association and QMass student groups.

Data are not available across all diversity characteristics for all groups by which to measure the level of the school's success in achieving diversity in the categories that it has defined; for example, socioeconomic status and educational background have been defined as diversity characteristics for staff but these data are not provided (see Appendix for all diversity statistics). These data are, however, available for students with the exception of religion; displayed below for the 2009-2010 academic year:

	All SOM Students	First-year Students
Race/Ethnicity/Nationality		
African-American	4.93%	3.13%
American Indian	0.21%	0.78%
Hispanic	2.46%	3.91%
Age Ranges		
20-29	87.47%	94.53%
30-39	11.50%	5.47%
40-49	1.03%	0%
Socio-economic Status		
Below Federal Poverty Level	6.16%	7.03%
Above Federal Poverty Level	93.84%	92.97%
Veteran Status	0.41%	0%
Educational Background-First Generation College	14.58%	12.50%
Environmental Factors – Rural Communities	2.36%	1.56%

*as noted earlier, female students have made up the larger percentage of all classes since 2003

Race/ethnicity/nationality data and gender data for faculty, professional staff, non-professional staff and GME residents, current for November 2011 are displayed below:

	Faculty	Professional Staff	Non-Professional Staff	GME Residents
Race/Ethnicity/Nationality				
African-American	1.83%	3.96%	7.89%	2.69%
American Indian	0.08%	0.41%	0.41%	0.18%
Hispanic	2.5%	3.55%	5.96%	4.49%
Gender				
Female	39.38%	67.94%	65.40%	50.09%
Male	60.62%	32.01%	34.60%	49.73%

The challenges faced by the school in meeting its diversity goals including a state with disproportionately low populations of underrepresented minorities compared to the rest of the country and the school's legal restriction of enrollment to student residents were discussed in the UMMS self-study summary report and with the survey team during the visit. There are policies and procedures at the institutional level to support diversity and to underscore the commitment of the institution to diversity. A solid curriculum in the principles of culturally competent health care, the recognition of health care disparities, meeting the needs of underserved populations, and the development of professional attributes necessary to the

provision of care in a diverse society is in place. There are a total of 23 people throughout the organization with diversity as a part of their job description or title. The *Institutional Diversity Plan* outlines goals, plans, and the budget considered to be necessary to meet diversity goals. A new vice chancellor for human resources, diversity and inclusion has made good progress in organizing diversity resources in the two years since her appointment to the university. Nonetheless, improvements in the diversity climate relative to meeting goals for a diverse student body and workforce have been slow. As noted above, UMMS had only 46 URM applicants for the entering class of 2011, 26 of whom were interviewed and 12 accepted, with eight who matriculated. African-American students constitute 5% of the student body; Hispanic students constitute only 2.5%. Among the diversity characteristics for students the only success is that women students outnumber male students. Data on the workforce percentages also indicate that meeting diversity goals is distant; as of November 2011, African-Americans constituted 1.83% of the faculty and Hispanic faculty 2.5%. Residents and staff have similar percentages.

The survey team heard from the students with which they met that the students felt the absence of a sufficiently diverse faculty and student body. In the independent student analysis, 68% and 69%, respectively, of respondents indicated that they were satisfied with the diversity of the student body and the faculty; 68% of respondents indicated that there is sufficient support for diversity-related concerns. The junior faculty members also commented to the survey team on the lack of diversity as one of the issues facing UMMS. In summary, UMMS has implemented many of the steps necessary to achieve appropriate diversity among its students, faculty, staff, and other members of the academic community. Resources have been dedicated to advancing the diversity goals of the school; the commitment of the school to enhancing the diversity of its community is clear. UMMS has implemented many of the steps necessary to achieve appropriate diversity among its students, faculty, staff, and other members of the academic community. However, the school's expectations regarding diversity among the faculty, staff, and students are stated in 10 categories so broadly defined (e.g., nationality, languages spoken) rendering focused efforts to recruit and retain members of these categories difficult to achieve. Although focused programs have been developed to recruit and retain students who represent members of some of these groups, there was no evidence that focused programs for recruitment and retention have been developed and implemented for all of members of all ten categories across students, faculty and staff.

II. EDUCATIONAL PROGRAM FOR THE MD DEGREE

See Appendix for the following documents:

- Educational program objectives linked to competencies expected of a physician
- Required clinical experiences expected of students
- A schematic showing the placement of courses and clerkships within each academic period
- Subjects required for accreditation
- Outcomes used to determine educational program effectiveness
- USMLE Step 1 and Step 2 performance data

A. Educational Program Objectives

(See Appendix for a schematic of the curriculum)

Year one of the LInC curriculum was implemented in August 2012; at the time of the survey visit (spring semester AY 2011-2012) year one (referred to as "foundations of medicine 1") was in a second administration and year two (foundations of medicine 2) had been implemented in the fall semester AY 2011-2012. Year 3 of the LInC curriculum (referred to as "core clinical experiences") will be

implemented in academic year 2012-2013; "core clinical experiences" will begin in the month of May, earlier than the start of clerkships in the "classic" curriculum.

The core competencies and educational program objectives were revised in 2003. The objectives are defined in the framework of six competencies (see Appendix for educational program objectives linked to competencies):

The physician as:

- *Professional* (professional values and behaviors; application of standards of care; ethical reasoning; effective team practice; self-assessment and learning)
- *Scientist* (core knowledge of biomedical, clinical, cognate sciences; scientific methods; and application of scientific methods to clinical problem solving)
- *Communicator* (communications with patients and families; impact of cultures, social systems, health belief models on communications; communication with health care team members)
- *Clinical problem solver* (acquiring and synthesizing patient information; analytic approaches to formulation of differential diagnoses and management plans; knowledge and negotiation of systems of care; quality improvement; informatics)
- *Patient and Community Advocacy* (health advocacy; community health education; physician obligation to volunteerism)
- *Person* (self-awareness; knowledge of limitations and value for personal growth; well-being; productive relationships with groups and individuals)

The objectives reflect general physician competencies and include all the elements of the ACGME competencies, although not using the exact language of the ACGME. Most of the objectives are stated in outcome-based terms.

The UMMS educational program objectives are the product of an educational summit in 2003 in which educational leadership and key stakeholders (i.e., department chairs, program directors, student representatives across all years, faculty across all years, course and clerkship directors, community-based faculty, and representatives of educational affiliates) participated. The *Competencies for Medical Education* document issued by this group was completed under the stewardship of the educational policy committee (EPC) leadership; the full EPC ratified the final *Competencies for Medical Education* document in 2003. Development and approval of this document was followed closely by the "competency implementation project (CIP)," which began in 2004 under the leadership of the EPC co-chairs as charged by the dean. The CIP was the initial stage of a comprehensive curricular redesign that encompasses curriculum structure and learning strategies, content, student performance assessment strategies, and curriculum evaluation strategies for all four years of the curriculum. The competencies and educational program objectives served as the guides for the development of all aspects of the new "Learner-centered Integrated Curriculum (LInC)." Each LInC course/clerkship design team was required to identify the key competencies related to their course and to link each course/clerkship learning objective to the competencies. Each strategy for measuring student learning and performance also is linked to one or more of the competencies.

The directors of the eight required clinical rotations (six required third-year clerkships; one fourth-year clerkship in neurology; and a fourth-year subinternship in internal medicine, family medicine or pediatrics) set the criteria for the required patient encounters, expected levels of student responsibility, and the appropriate settings needed to meet learning objectives for clinical education. The clerkship directors of the clinical years committee collectively reviewed clinical patient encounter objectives in academic year 2007-2008 and annually thereafter. In academic year 2011-2012, the clerkship directors

decided to schedule the annual review in mid-spring in order to allow changes to be implemented for the core clinical experiences year beginning in May (see Appendix for required clinical experiences).

Students log their required clinical experiences through the electronic student log database "UMassMed Medical Encounter Documentation System (UMEDS)." This system is accessible through an internet interface or on required handheld devices. The format of the system is common across clerkships. Students make selections from drop-down menus that include: clerkship rotation, level of participation (performed or observed), setting (inpatient, outpatient, simulation), patient type (infant, pediatric, adult) and relevant objective. Clerkship directors receive reports of student logging midway through the clerkship, one to two weeks before the conclusion of the clerkship and one-month after the end date. Clerkship directors or their designees review the interim UMEDs reports at the mid-point and towards the conclusion of each rotation and determine if there is any need for change or augmentation of the students' clinical experiences to meet clerkship objectives. Clerkship directors and students can also generate their own specific reports at will. Gaps in student clinical experiences are remedied through targeted clinical experiences, focused readings, use of online cases (e.g., CLIPP pediatrics cases, SIMPLE medicine cases), or locally developed cases or learning modules. Completion of these activities is recorded in UMEDs or by clerkship-specific methods.

Educational program objectives are shared with new students at orientation, displayed in posters located in areas of the school that receive high student traffic, and posted on the office of undergraduate medical education website. Course and clerkship expectations are available to students, faculty, and residents on course/clerkship websites and through the distribution of written course materials. Objectives also are reviewed with students during orientations to the course or clerkship, and reviewed with faculty and residents during faculty development sessions or other meetings in which the courses and clerkships are discussed. The objectives are sent via email and/or hard copy to distant faculty and affiliates, and displayed in many of the affiliate sites. An associate dean for medical education has been identified to serve as liaison between each of the major affiliated institutions and the school of medicine; these associate deans assure that faculty, residents, and affiliate leadership are familiar with the educational program objectives. In addition, regular meetings are conducted through the office of educational affairs with each of the three major teaching affiliates; and an annual affiliate dinner and meeting is sponsored by the dean's office, bringing together educational leadership at these sites and school of medicine leadership.

As noted above, UMMS has implemented the first two years of its new integrated, competency-based curriculum. The stated competences and educational objectives guided the establishment of curriculum content and will provide the basis for evaluating educational program effectiveness. A full evaluation of program effectiveness will not be possible until the educational program is completely implemented.

B. Structure of the Educational Program

1. General Design

UMMS implemented the first year of a new curriculum—the Learner-centered Integrated Curriculum (LInC)—in the first semester of AY 2010-2011. Each year of the LInC curriculum will be implemented sequentially; therefore, at the time of the survey visit, years 1 and 2 of LInC had been implemented. Year 3 of the LInC curriculum will be implemented in the first semester of academic year 2012-2013, and the final year of the LInC curriculum to be implemented in academic year 2013-2014. Throughout this report, the outgoing curriculum will be referred to as the "classic" curriculum.

Classic curriculum – Years 3 and 4

Students were enrolled in the third and fourth years of the classic curriculum at the time of the survey visit. Because years three and four are the only years still in place in the classic curriculum, the general design of these years is presented here, allowing a more integrated description of all years of the LInC curriculum to follow. The third year of the classic curriculum is dedicated to required clinical clerkships, with six weeks in family medicine, obstetrics and gynecology, pediatrics, and psychiatry; and 12 weeks in internal medicine and surgery. Seven full-day and two half-day "interclerkship" sessions are part of the year 3 curriculum. These intensive, short programs are designed to teach new skills that the students can put into use immediately during their clerkship education. Interclerkship topics include patient safety/medical errors, domestic violence, health policy and practice of medicine, multiculturalism, pain management, geriatrics, end-of-life, oral health, and disabilities. A variety of learning strategies are used including classroom teaching, interactions with standardized and real patients, films, site visits, role-plays and small group workshops. The fourth-year curriculum is comprised of a neurology clerkship, and a four-week subinternship selective in family medicine, medicine, or pediatrics, and elective courses. There was a total of 157 required weeks of instruction in the classic curriculum: 39 in year one, 38 in year two, 48 in year three, and 32 in year four.

Learner-Centered Integrated Curriculum (LInC)

The four years of the LInC curriculum are designated as:

Foundations of Medicine 1 & 2	Years 1 and 2
Core Clinical Experiences	Year 3
Advanced Studies	Year 4

Learning communities are initiated in year 1 and continue throughout the four-year educational program. Learning communities are composed of "houses" into which students are randomly assigned upon matriculation; each house has four faculty mentors, with 20 being the total number of mentors. Each mentor will work with six to seven students in a class; when the learning communities are fully implemented, the mentors will each work with approximately 28 students from years 1 through 4 of medical school. Mentors are selected for their exceptional educational skills and clinical experience, as well as personal and professional characteristics. Learning communities are designed to enhance the quality of student-teacher and student-student relationships by developing longitudinal interactions between students, faculty and peers from other classes throughout the four-year educational program. This model is designed to improve continuity of teaching doctoring and clinical skills, support interactive and small group teaching, foster students' self-directed learning, and develop students' skills in formal and informal peer teaching and mentoring. Each learning community has its own assigned group study room, where students from each house can convene and interact as needed.

The Foundations of Medicine 1 (FOM1) and Foundations of Medicine 2 (FOM2) include the following interdisciplinary/integrated courses. All courses employ the use of cases and integrate clinical, basic, and social science concepts, and are sequenced to support vertical and horizontal integration.

- **Building Working Cells and Tissues** introduces and applies key principles of biochemistry, histology, physiology, carbohydrate metabolism and cellular genetics to an understanding of how cells and tissues are built, and how they work.
- **Principles of Human Genetics** content includes basic cellular and molecular genetics and clinical application in areas such as chromosomal abnormalities, genetic diseases, the human genome project, reproductive genetics, cancer genetics, genetics of aging, gene therapy, stem cells, and cloning. Also discussed are contemporary ethical, legal and social issues of genetic

privacy, the genetic non-discrimination act and emerging topics such as epigenetics and personalized medicine based on genetic variants.

- **Development, Structure and Function** presents an integrated view of anatomy, histology, physiology, embryology and growth. DSF includes cadaver dissection.
- **Principles of Pharmacology** introduces basic pharmacology principles and concepts, such as drug development and regulation, pharmacodynamics, pharmacokinetics, drug metabolism and neuroeffector systems; how basic pharmacology principles impact treatment decisions is discussed using clinical vignettes and case studies.
- **Cancer Concepts** is a case-based course covering the basic pathophysiology of malignancy. Introductions are provided to the three clinical disciplines of oncology (radiation oncology, surgical oncology and medical oncology) as well as the epidemiology and societal implications of cancer.
- **Host, Defense and Blood** provides an integrated overview of bone marrow, peripheral blood and inflammation, and the major pathologic disorders in hematology and immunology, including autoimmune diseases and hematologic malignancies.
- **Infections** includes the host response to and its defense mechanisms against infections, and deals with the laboratory aspects, structure, and pathogenic mechanisms of infectious agents that cause disease across populations and the developmental continuum from conception, through childhood, and the aging adult. Infectious agents are presented in the context of epidemiologic (population health) factors including the psychological and social implications of various infections and the need for cultural competence in providers.
- **Organ System Diseases** covers seven major organ systems (cardiovascular, renal, respiratory, gastrointestinal reproductive, endocrine, musculoskeletal). Each OSD block covers advanced physiology and pathophysiology, as well as relevant pharmacology, infections, cancers, doctoring skills and clinical cases.
- **Determinants of Health** includes community and population health, addressing the impact of community, culture and medical care systems on health, and the quantitative health sciences, which include epidemiology and biostatistics. There is an emphasis on applying Determinants of Health principles to clinical care, screening, diagnosis and treatment of disease, and the role of physicians as advocates for individuals and populations within a multidisciplinary healthcare team. The course includes a community health clerkship experience, placing students with colleagues from the Graduate School of Nursing in community agencies and other sites to study the problems and services among diverse racial, ethnic and cultural groups, gay, lesbian, bisexual and transgender patients, poor families, patients with HIV/AIDS, persons dealing with substance abuse, older adults, the homeless, people with developmental disabilities, abused children and incarcerated patients.
- **Brain: Nervous System and Behavior** presents disorders of the nervous system and behavior, taking into account genes, neurological substrate, behavior, environment and impact on the person and society. Structured as three concurrent tracks (psychiatry and behavioral science, neuroanatomy and neurophysiology, neuropathology and neurology), the course anchors teaching in clinical disorders and syndromes including stroke, traumatic neurologic injury, depression, pain and memory loss.
- **Patients** links self-assessment and formative assessment to selected multisystem problems and common and urgent clinical presentations, in order to help students synthesize the learning in FOM1 and FOM2, as well as helping students identify areas for specific focus in clinical learning.
- **Integrated Case Exercises** program is a longitudinal two-year experience, drawing content from all FOM1 and FOM2 courses, and providing structured opportunities for guided clinical problem-solving. Basic science and clinical science faculty co-teach to emphasize the relevance and application of basic sciences to clinical care, and integrating content from anatomical,

physiological, biochemical, genetic epidemiological and human (patient/family) perspectives. Other longitudinal content areas include nutrition, aging and evidence-based medicine.

- The **Doctoring and Clinical Skills (DCS)** course, which runs throughout both FOM1 and FOM2, utilizes the faculty mentors in learning communities as the primary mechanism for professional development and to teach a skills-based curriculum. Primary content in the clinical skills teaching during FOM 1 includes the medical interview, communication in medicine, physical examination, clinical reasoning, professionalism and medical ethics. More specific applications include reinforcement of basic science content from the clinical perspective, oral presentations, working in teams, physician (and student) as teacher, application of appropriate evidence-based medicine, cultural diversity in patient care, determinants of health, health care systems and balancing personal and professional life. This longitudinal, multi-component course comprises more than 300 hours of required curriculum time across FOM1 and FOM2. The course has three main components:

    - *Doctoring and Clinical Skills small groups*, in which students meet regularly with two faculty facilitators to acquire skills in course competencies.
    - *Longitudinal Preceptorship Program (LPP)* places students in the clinical setting beginning in the first weeks of medical school under the supervision of an assigned faculty physician preceptor. Diverse preceptorship sites are available, including urban, rural and underserved settings within commuting distance of the medical school. Students attend LPP sessions an average of every other week during the first two years, first shadowing their assigned preceptor, and then actively practicing clinical skills introduced in doctoring and clinical skills small groups.
    - In the *Physical Diagnosis (PD)* component, the principles of the normal and abnormal physical examination are taught and practiced with standardized patients (SP's) in the Clinical Skills Lab and, subsequently, with patients at various clinical sites. As with the preceptorship program, these sites are located within commuting distance from the campus.

The **Core Clinical Experiences** (year 3, with the neurology clerkship in year 4) span 48 weeks of curriculum organized into three 16-week coordinated thematic sections. These sections are:

Care of Adults	Medicine Clerkship Neurology Clerkship
Care of Families	Family Medicine and Community Health Clerkship Pediatrics Clerkship Psychiatry Clerkship
Perioperative and Maternal Care	Surgery Clerkship Obstetrics & Gynecology Clerkship

This model allows for both discipline-specific and interdisciplinary training, modeling the future of patient care. Basic science section leaders will work with clerkship directors to integrate specific basic science skills and content into the clinical experiences. A longitudinal "interstitial" curriculum binds together the pieces of this model throughout the CCE with curriculum threads and the continued presence of learning communities mentors as teaching. Students have the opportunity to craft a self-directed learning experience that links four discrete one-week periods of time to meet their individualized needs over the space of the CCE year.

The **Interstitial Curriculum** (interclerkship curriculum) will be constituted of nine full-day sessions and will be conducted within the context of the learning communities. Topics will be coordinated with clerkship experiences when possible. Threads under consideration include health policy and the practice of medicine, learning from multi-professional teams, journal club, evaluating scientific information, serving our neediest families, and mentorship (e.g., career guidance, financial planning, stress and self-care).

Advanced Studies (year 4) will begin in the spring of the third academic year, following completion of the core clinical experiences. This curriculum balances required and elective time to support students' personal and professional development. The required elements include:

- **Advanced Biomedical and Translational Sciences** is a two-week course in which medical students will study the molecular, cellular, and genetic bases of disease, selecting a specific area of study from a 10 to 12 topic areas such as genetics, cancer, auto-immune/inflammatory disease, cardiovascular disease, and in-born errors of metabolism. Students also will be responsible for examining a specific, limited problem or question of their choosing. Content areas being considered for inclusion are cancer, diabetes, neurodegenerative, cardiovascular, osteoarthritis, autoimmune, in-born errors of metabolism, mechanisms of drug resistance, autism spectrum, asthma, age-related disease, and wound-healing.

- In the **Emergency Clinical Problem Solver** course, students will integrate their knowledge in order to recognize/identify an emergency (across different clinical settings) and adapt to cases that fall outside of the typically taught sequence of history-taking, physical exam, generation of a differential diagnosis and plan; evaluate the undifferentiated patient and generate a differential diagnosis (worst case scenario vs. most common); perform patient management to include determination of acuity and related decision making, procedural skills, leadership/effective communication (including advanced presentation skills: ability to adjust to your audience and setting, effectively communicate with consultants and admitting services.) Course content will include an introduction to expert diagnostic reasoning, illness scripts, and self-assessment; core topics such as STEMI, sepsis, and overdose will be introduced by a general chief complaint with paired target cases; and procedural syllabus and integrated simulation scenarios.

- The **Capstone course** will provide student an independent, but guided, opportunity to apply and integrate knowledge and skills gained during the first two year of medical school education to a scholarly project in an area of their own choosing. The course leader will meet with students during the first two years of medical school to help identify an area of interest for the student and to identify an appropriate faculty advisor. Scheduled oversight and periodic reporting will provide the advisor with information to make certain that project goals are being met. The project will culminate with the submission of an end report and public presentation or other form of communication of results.

- **Subinternship** selective in family medicine, pediatrics, or internal medicine.

- **Transition to Internship** will provide soon-to-graduate students will skills to ease their transition to their PGY 1 year, including ACLS training.

For the remainder of the Advanced Studies year, students undertake a planned program of study consisting of elective experiences and have unscheduled time for interviews, personal and professional development. Curricular thread material continues through advanced studies in the advanced biomedical and translational sciences selective and the emergency clinical problem solver course.

The number of scheduled instructional hours in the LInC curriculum year one is 663 and 618.5 in year two. When fully implemented, the total number of weeks in the LInC curriculum will be approximately 145, with 35 weeks in academic period one, 28 weeks in academic period two, 40 weeks in academic period three, and 42 weeks in academic period four.

Virtually every opportunity for active learning in the classic curriculum has been included in the parallel LInC course. The LInC curriculum therefore offers several opportunities for students to engage in aspects of active learning, and in some cases more than that available in the classic curriculum. In the year 2 "population health clerkship", medical students work in small groups with graduate nursing students to work with community agencies that address community health problems. Students self-select the program with which they will work, and conduct an in-depth review of the health problem based on their individual and the group's learning needs, culminating in a team report analyzing the problem they studied. A day-long "clinical immersion experience" introduces students to hospital team-based patient care. Students prepare for the session by discussing concepts in their doctoring and clinical skills (DCS) small groups, and considering the patient care experience from the perspective of physicians, nurses and patients. Subsequent to the immersion day, students reflect individually and with their DCS small groups in order to help plan their own learning and practice needs for the future. Students also are required to assess the credibility of information sources in a principles of genetics take-home exam, which requires submission of search criteria and a bibliography of the sources used to answer the questions, and a clinical pathological conference (CPC) exercise in the biology of disease course. Several disease blocks in the organ systems diseases course have a clinical pathological conference (CPC) exercise in which students must use the medical literature and assess the credibility of information resources. Students get opportunities to develop skills of critical judgment in the epidemiology-biostatistics sessions taught in the determinants of health course, during which students complete several assignments of problem sets requiring students to use the medical literature to assess the methodology of the study and the evidence to determine its usefulness to the problem. The small group, case-based sessions in the DCS course in years 1 and 2 also help students develop skills in medical problem solving. Through the problem-solving modules in year 1, students are required to employ the skills of data gathering, forming an initial hypothesis, narrowing the problem to appropriate systems, asking questions which help refine the hypothesis to specific systems or diseases, and generating a problem list. During year 2, students are required to apply critical thinking skills to medical decision making by developing a complete problem list, interpreting lab and x-ray data and integrating these with a problem list, and using the problem list to develop an assessment and plan for each patient problem, including differential diagnosis for each problem. Additional opportunities to work through patient cases, using the evidence to solve medical problems are provided in the integrated case exercises program, which runs throughout FOM1 and FOM2. Microbiology laboratory experiences in the infection course, and virtual histopathology lab in brain: nervous system and behavior course require students to apply the scientific method and make observation of biomedical phenomena. Students learn about societal demands on health care in the "clinical and population health research" project. The interstitial curriculum in years 3 and 4 will provide many opportunities for students to acquire knowledge and understanding of societal needs and demands on health care. Topic areas will include domestic violence, disabilities, end-of-life care, health policy, and multiculturalism, with educational objectives from basic science, clinical, psychosocial, legal, ethical and sociological perspectives.

Components of the year 1 and year 2 curriculum that are offered at more than one site include the year 1 and year 2 longitudinal preceptor program; clinical skills training in the DCS course provided by the learning communities mentors; and the year 2 population health clerkship. The learning objectives, student performance assessments, grading systems, and required content are identical for these curricular components across all sites. Course leadership distributes the learning objectives and grading information to the students' assigned preceptors at the start of the academic year; additional information is sent every

two to four weeks outlining curriculum content covered in the DCS and other courses to encourage greater integration of the longitudinal preceptorship. Students complete an end-of-course evaluation form, which includes items with which students can rate preceptors. Evaluation data are compiled and reported by site as appropriate, and submitted to the course director and curriculum committee; the course director is responsible for determining the cause of inconsistencies across sites/preceptors and developing an approach for remediation of the inconsistency.

The processes currently in place to ensure comparability of the clerkships across sites will be continued in the LInC core clinical experiences of year 3 and advanced studies of year 4. The learning objectives (including required patient encounters), methods of student performance assessment, systems for grading, required content, and methods to collect student feedback are identical in each clerkship across all sites for that clerkship. Clerkship leaders are responsible for distributing clerkship objectives and grading information to the coordinators at individual clinical sites at the beginning of each rotation; site coordinators are responsible for assuring distribution of this information to all faculty at that site who are involved in clerkship teaching. In the case of ambulatory components of clerkships, this information along with a preceptor manual as appropriate will be sent directly to the preceptor. This same information is distributed to all clerkship faculty at the beginning of the academic year. Each clerkship has established systems for communicating among the faculty leaders at each clerkship site throughout the clerkship year. In the family medicine clerkship, core faculty who represent the major teaching sites meet quarterly with the clerkship director for updates and to discuss their performance. The pediatrics clerkship director or designee makes periodic visits to all sites, and the clerkship holds an annual weekend-long retreat that is well attended by preceptors. The internal medicine clerkship identifies directors for each clinical site; the clerkship director visits each site periodically to meet with the site director and key faculty to review learning objectives. In addition, the site directors meet quarterly in grading meetings for student performance assessment and to review and revise clerkship elements as deemed necessary. Similarly, each site of the psychiatry clerkship has a designated site director; in addition to meeting with the psychiatry clerkship co-directors when they are new to their position, they meet whenever there is a change in the clerkship to assure orientation to the change. The clerkship director and education coordinator visit all sites at least annually to review progress at the sites and to review student feedback on the clerkship at their individual sites. The clerkship director for surgery communicates with site directors as needed; site directors in turn communicate with the faculty at their sites. The same system is in place for the neurology clerkship.

Students provide feedback on the clerkships using a standardized end-of-clerkship evaluation form, which recently was moved from a web-based format to the E*Value on-line system. The evaluation form allows students to provide quantitative ratings on a number of common items related to educational quality, clerkship administration, and educational formats, as well as standardized items with which students can rate the performance of preceptors, attending physicians, and residents at individual clinical training sites. The common format allows for cross-clerkship and cross-site evaluations to be compiled and evaluation data compared across clerkships and within clerkships across sites. These semiannual reports are distributed to the clerkship directors, the curriculum committee for the clinical years, educational policy committee officers, department chairs (for their respective clerkships), and site directors at major affiliate institutions. The reports also display trends across several years. Clerkship directors work with the clinical department chairs and relevant site directors/site leadership to determine the cause of an identified inconsistency among sites and to develop an approach to remediation of the inconsistency. The associate dean for undergraduate medical education meets monthly with the clinical years committee chair and annually with each clerkship director to review these reports. The clinical years committee also includes an analysis of cross-site quality as a component of the regular clerkship review process, which will be discussed later in this report. A new element recently has been added to the process by which the consistency of educational program across sites is evaluated; student performance data on the end-of-year

3 OSCE by clerkship site is now available to enhance efforts to monitor the consistency of educational experiences across sites.

2. Content

All topics required for accreditation were included in the "classic" curriculum; with the exception of only a very few topics, all are amply covered and distributed between the preclinical courses and clinical curriculum. For example, among all of the socioeconomic and behavioral subjects the fewest sessions (four) were devoted to medical humanities; eight sessions were devoted to complementary/alternative health care and domestic violence/abuse; the remaining subjects receive more extensive coverage. All other required curricular content were present in the classic curriculum and, as with the socioeconomic and behavioral topics amply covered and integrated throughout the curriculum (see Appendix for table of subjects required for accreditation).

The presence of these topics in the curriculum is supported by 2011 AAMC GQ data. In the range of 80-100%, respondents rated the vast majority of topics as being appropriately covered. Only a handful of topics were considered by respondents to be inadequately covered. The table below indicates those topics that one-third or more respondents considered to be inadequately covered. The topic of law and medicine is the only topic that diverges significantly from the national ratings.

	UMMS % Inadequate	All Schools % Inadequate
Law and medicine	72.6	51.1
Medical licensure/regulation	57.5	65.2
Medical economics	56.2	63.8
Practice management	48.6	52.2
Managed Care	43.8	45.9
Health care systems	38.4	37.1
Occupational medicine	32.9	38.7
Environmental health	32.9	35.9

Essentially all of the content required for accreditation in the first two years of the classic curriculum has been transferred to parallel courses in the LInC curriculum; some topics have been enhanced with additional sessions or new learning strategies. Similarly, it is planned to transition content from the current clinical years of the curriculum into the LInC core clinical experience of year 3, advanced studies (year 4), and the interstitial curriculum. For example, topics relative to clinical translational research were included in the classic curriculum through sessions focused on evidence-based medicine and developing skills in critical assessment of the literature, and in sessions regarding research ethics. In the LInC curriculum, this content is expanded and more closely coordinated with, among other sessions, the addition of a longitudinal journal club series during which students will analyze clinical and translational research study principles and the design, conduct, and application to patient care. The curriculum also includes additional content in the area of law and medicine in the interstitial curriculum.

YEAR ONE
LInC Curriculum AY 2011-2012
(First offered AY 2010-2011)

Foundation of Medicine I (FOM 1) Course Title	Formal instructional hours					
	Lecture	Lab	Small groups*	Patient contact	Other†	Total
Building Working Cells and Tissues	54	10	10.25	2.75	2	79
Cancer Concepts	12		7		1	20
Doctoring and Clinical Skills I						
• Small Group Sessions	15		65.5		5.5	86
• Physical Diagnosis	0.75				29.25	30
• Longitudinal Preceptor Program I	0.5			42		42.5
Development, Structure and Function	110.25	81.5	20.25	1	3	216
Host Defense and Blood	50.5	1.5	7.5		2	62.5
Infections	51.25	2.25			3.5	57
Integrated Case Exercises I	17			1		18
Principles of Human Genetics	26			2	2	30
Principles of Pharmacology	22					22
TOTAL	359.25	99.75	107	48.75	48.25	663

* Includes case-based or problem-solving sessions
† Describe:

Building Working Cells and Tissues – Case-based interactive discussion, review
Cancer Concepts – Course review
Doctoring and Clinical Skills – Formative mini-OSCE, clinical immersion
Development, Structure and Function – Large group case discussion
Host, Defense and Blood – Case discussion, formative assessment
Infections – Case-based interactive discussion
Principles of Human Genetics – Large group problem sets

YEAR ONE
LInC Curriculum AY 2011-2012
(First offered AY 2010-2011)

Course	Objectives (Y/N)[1]	Formative Assessment[2] (Y/N)	Narrative Assessment[3] (Y/N)	Students' Rating(s) of Course (national comparison)[4]	Residents/ graduate students used as teachers/ supervisors[5] (Y/N)
Building Working Cells and Tissues	Y	Y	N	*88%	N
Cancer Concepts	Y	Y	Y	*N/A	Y
Doctoring and Clinical Skills I	Y	Y	Y	*83%	N
Development, Structure and Function	Y	Y	N	*79%	Y
Host Defense and Blood	Y	Y	N	*N/A	Y
Infections	Y	Y	N	*N/A	N
Integrated Case Exercises 1	Y	Y	N	*79%	Y
Principles of Human Genetics	Y	Y	Y	*97%	N
Principles of Pharmacology	Y	Y	N	*87	N

1. Are there objectives for the course that are provided to students?
2. Do students have opportunities for formative assessment to test their knowledge/skills?
3. Do students receive a narrative assessment for either formative or summative purposes?
4. Indicate the source of the student rating and provide normative data if available (for example, if the AAMC GQ is used). Describe what is being rated (course quality, preparation for clerkship). More than one rating can be provided (expand the table)
5. Are residents and/or graduate students used as teachers/supervisors?

*Source: Independent Student Analysis. % satisfied and very satisfied "Overall quality of the course."
N/A: Course not evaluated in the independent student analysis

YEAR TWO
LInC Curriculum AY 2011-2012
(First offered AY 2011-2012)

Course	Formal instructional hours					
	Lecture	Lab	Small groups*	Patient contact	Other†	Total
The Brain: Nervous System and Behavior	96	3	30		17.25	146.25
Determinants of Health	12		10.25		47	69.25
Organ System Diseases	157.75	10.25	53.25		18.75	240
Patients	24				20.5	44.5
Doctoring and Clinical Skills II						
• Small groups	2		25.25			58.25
• Physical Diagnosis II	11.25		47			18
• Longitudinal Preceptor Program II				18		18
Integrated Case Exercises II	13					13
TOTAL	316	13.25	165.75	18	105.5	618.5

* Includes case-based or problem-solving sessions

† Describe

The Brain – Large group case-based problem solving, integrative cases, review sessions
Determinants of Health – Population Health Clerkship, poster session
Organ System Diseases – Lab as a group, review session, lecture with patient, large group problem solving
Doctoring and Clinical Skills II – Formative OSCE
Patients – Interactive lectures with small groups

YEAR TWO
LInC Curriculum AY 2011-2012
(First offered AY 2011-2012)

Course	Objectives (Y/N)[1]	Formative Assessment[2] (Y/N)	Narrative Assessment[3] (Y/N)	Students' Rating(s) of Course (national comparison)[4]	Residents/ graduate students used as teachers/ supervisors[5] (Y/N)
The Brain: Nervous System and Behavior	Y	Y	N	Not yet rated	Y
Determinants of Health	Y	Y	Y	"	N
Organ System Diseases	Y	Y	Y	"	Y
Patients	Y	Y	N	"	N
Doctoring and Clinical Skills II	Y	Y	Y	"	Y
Integrated Case Exercises II	Y	Y	Y	"	Y

1. Are there objectives for the course that are provided to students?
2. Do students have opportunities for formative assessment to test their knowledge/skills?
3. Do students receive a narrative assessment for either formative or summative purposes?
4. Indicate the source of the student rating and provide normative data if available (for example, if the AAMC GQ is used). Describe what is being rated (course quality, preparation for clerkship). More than one rating can be provided (expand the table)
5. Are residents and/or graduate students used as teachers/supervisors?

Summary of Years One and Two

LInC Curriculum

In the LInC curriculum, graduate students, residents, and post-doctoral fellows participate in six of the 13 pre-clerkship courses, most frequently serving as facilitators in small group sessions and occasionally as guest lecturers in the integrated case exercises. They are prepared for their teaching roles (they do not participate in student performance assessment) by the course directors and provided materials for the session in advance. All courses in years 1 and 2 provide some form of formative assessment; most courses provide more than one type of formative assessment. The most frequent types of formative assessments are online and in-class quizzes, optional problem sets and study questions, and mock exams administered before the summative exams. Several of the courses have a "quiz of the week" to help students gauge their progress. The cardiovascular block of the organ system diseases course also posts on the course website "flash cards" of key histological features, which students can use to test themselves. Approximately six of the courses in years 1 and 2 provide narrative feedback. In cancer concepts, students receive written feedback on assignments and on their participation in small groups; and students receive written feedback on a written clinical pathological conference exercise in the cardiovascular block of organ system and disease. At the end of the doctoring and clinical skills course, students are provided

a summative written narrative assessment on their interviewing skills, problem-solving skills, and small group participation from their faculty facilitators; narrative summative assessment also is provided at the end of the physical diagnosis component. In the case of courses that have small group activities but do not provide narrative assessment, facilitators do not work with one group of students for sufficient time to allow familiarity with the students to provide meaningful narrative feedback.

Course directors report that sufficient resources are available for the conduct of the courses. New and renovated laboratory and lecture spaces, which will be discussed in the general facilities section of this report, are considered to be excellent resources to support the educational program.

The basic clinical skills of history-taking, communications, and physical examination are taught in the doctoring and clinical skills I and II courses, which span the first two years of the curriculum. The course is presented in several components, two of which are focused on basic clinical skills. In DCS1 and 2 small groups components, two faculty (a physician and a social scientist) teach a group of 12 first-year students in facilitated small group discussions and case-based teaching. DSC1 teaches the basic skills of medical interview; DCS2 small groups include advanced medical interview (e.g., using interpreters, delivering bad news, performing HIV risk assessment). Additional content covered in both DSC1 and 2 small groups include problem solving, medical ethics, and professionalism, along with personal and professional development. The principles and practice of the normal physical exam are taught in the physical diagnosis component of DCS1; physical diagnosis in DCS2 used the inpatient hospital setting as the chief site of teaching. The major change in the physical diagnosis component from the "classic" curriculum is that physical exam skills now are taught by the faculty mentors of the learning community program; fourth-year students were re-engaged in the program in AY 2011-2012 to partner with the faculty mentors. There appear to be no problems with the availability of an adequate patient base. All students are directly observed by their faculty mentors performing patient interview and physical exam skills. Although adequate space is available for these educational experiences, improved space will be available with the opening of the Albert Sherman Center in 2013. The school's commitment to the learning communities program by supporting a cadre of faculty mentors assures the faculty resources for clinical skills training in this course. An ongoing program of faculty development for learning community mentors also has been instituted.

YEAR THREE

Classic Curriculum AY 2011-2012

Clerkship/Course	Total wks	% Amb.	# Sites used*	Typical hrs/wk formal instruct.**	Patient Criteria† (Y/N)	Patient Log (Y/N)
Family Medicine Clerkship	5	100%	0/33	8-12	Y	Y
Internal Medicine Clerkship	10	25%	6/44	12-18	Y	Y
Obstetrics and Gynecology Clerkship	5	30%	6/6	5	Y	Y
Pediatrics Clerkship	5	50%	3/33	4-8	Y	Y
Psychiatry Clerkship	5	8%	10/12	1-5	Y	Y
Surgery Clerkship	10	6%	5/5	3-4	Y	Y

*Include the number of sites used for inpatient teaching and the number of sites used for outpatient teaching in the clerkship in the following format: # inpatient / # outpatient
* *Sum of lectures, conferences, and teaching rounds; show the range of hours if there is significant variation across sites
† Have criteria for student clinical encounters been defined?

Course	Formal instructional hours					
	Lecture	Lab	Small groups	Patient contact	Other	Total
Interclerkships	38		28			66

YEAR FOUR
Classic Curriculum AY 2011-2012

Course or Clerkship	Total wks	% Amb.	# Sites used*	Typical hrs/wk formal instruct.**	Patient Criteria† (Y/N)	Patient Log (Y/N)
Neurology Clerkship	4	25-50%	6/6	4-6	Y	Y
Subinternship Selective Family Medicine	4	0%	2/0	6-12	Y	Y
Subinternship Selective Medicine	4	0%	6/0	10-13	Y	Y
Subinternship Selective Pediatrics	4	0%	1/0	5	Y	Y

*Include the number of sites used for inpatient teaching and the number of sites used for outpatient teaching in the clerkship in the following format: # inpatient / # outpatient
* *Sum of lectures, conferences, and teaching rounds; show the range of hours if there is significant variation across sites
† Have criteria for student clinical encounters been defined?

YEARS THREE AND FOUR

Classic Curriculum

Clerkship	Objectives[1] (Y/N)	% Observed/ History[2] (National %)	% Observed/ Physical[2] (National %)	Mid-clerkship Feedback[3] (Y/N)	Average Timing of Grades[4]
Family Medicine Clerkship	Y	83.5 (76.4)	87.7 (79.5)	Y	*9 wks (6 wks)
Internal Medicine Clerkship	Y	89.0 (75.8)	91.8 (79.3)	Y	6 wks (6 wks)
Obstetrics and Gynecology Clerkship	Y	75.3 (58.0)	91.8 (76.4)	Y	9 wks (6wks)
Pediatrics Clerkship	Y	91.8 (76.4)	91.8 (79.5)	Y	6.5 wks (6 wks)
Psychiatry Clerkship	Y	94.4 (82.2)	95.7 (90.3)	Y	11 wks (6 wks)
Surgery Clerkship	Y	60.3 (49.4)	64.4 (53.9)	Y	6 wks (6 wks)
Neurology Clerkship	Y	N/A	N/A	Y	5 wks (6 wks)
Subinternship Selective Family Medicine	Y	N/A	N/A	Y	7 wks (3 wks)
Subinternship Selective Internal Medicine	Y	N/A	N/A	Y	4 wks (3 wks)
Subinternship Selective Pediatrics	Y	N/A	N/A	Y	9 wks (3 wks)

1. Are there objectives for the clerkship?
2. Provide data from the AAMC GQ on the percent of students who report being observed performing a history and a physical examination (provide national normative data)
   N/A – data are not available in the AAMC GQ for Neurology Clerkship or subinternships
3. Do students receive mid-clerkship feedback?
4. Provide the average time for students to receive their grades
   *Data are displayed for AY 10-11; data for the first half of AY11-12 are in parentheses

STUDENT SATISFACTION WITH CLERKSHIPS

Clerkship	AAMC GQ 2011 "Rate the quality of your educational experience in the following clerkships." % "Good" and "Excellent" (national)	**Independent Student Analysis** "Overall clerkship quality" % "Satisfied" and "Very Satisfied"
Family Medicine Clerkship	92.8% (84.5%)	94%
Internal Medicine Clerkship	94.5% (90.9%)	92%
Obstetrics and Gynecology Clerkship	80.8% (77.7%)	75% (16% "Neutral")
Pediatrics Clerkship	97.3% (86.9%)	99%
Psychiatry Clerkship	93.1% (85.2%)	93%
Surgery Clerkship	90.3% (84.2%)	84% (9% "Neutral")
Neurology Clerkship	79.1% (73.4%)	91%
Subinternship Selective Family Medicine	Not available in GQ	77 (11% "Neutral" & 11% "Unsure")
Subinternship Selective Internal Medicine	Not available in GQ	93%
Subinternship Selective Pediatrics	Not available in GQ	86% (14% "Unsure")

Summary of Years Three and Four

All clerkships distribute and discuss clerkship objectives at an orientation session at the beginning of each clerkship rotation period. Objectives also are contained in the clerkship manual and posted on clerkship websites. Virtually all programs in which the residents are involved in clerkship teaching provide a session for entering residents during which the clerkship objectives and grading criteria are discussed, along with faculty development in teaching and student performance assessment skills. Pediatrics and psychiatry residents are required to attend an annual teaching retreat; obstetrics and gynecology residents participate in an annual didactic session on teaching. In several of the clerkships, the residents receive the clerkship objectives at the beginning of each clerkship rotation period. Family medicine preceptors receive a preceptor handbook that describes both the objectives and the criteria for student performance assessment. A site director is identified for each of the clinical sites for the medicine clerkship; the medicine clerkship director visits each of the inpatient sites to review objectives and criteria for grading with the site director who in turn is responsible for orienting all faculty on site. The obstetrics and gynecology clerkship director and education coordinator and the pediatrics clerkship director visit all sites at least annually to orient faculty to objectives; the pediatrics director also distributes copy of the

clerkship objectives to all faculty annually. All psychiatry faculty receive a folder of information that includes the clerkship description, objectives, evaluation forms and instructional memos, important policy reminders (e.g., appropriate treatment of learners, professionalism guidelines and early warning reports, grading policy), and new faculty meet with the course director to review expectations. Psychiatry also holds an annual faculty retreat during which teaching topics and skills are discussed. Site directors for the surgery clerkship orient all faculty at their respective sites to clerkship objectives and grading criteria; the surgery department also holds a mandatory "education summit" each year to evaluate the educational programs.

Students log the required clinical experiences using an electronic patient log data base known as UMEDS (UMassMed Medical Encounter Documentation System). UMEDS is accessible through an internet interface or on required handheld devices. The format of the system is common across clerkships. Clerkship directors receive a report of student logging midway through the clerkship, one to two weeks before the conclusion of the clerkship and one month after the end date. Clerkship directors or their designees review the interim UMEDs reports at the mid-point and towards the conclusion of each rotation and determine if there is any need for change or augmentation of the students' clinical experiences to meet clerkship objectives. Both students and clerkship directors can generate their own specific report at will, thereby allowing them to evaluate their progress toward meeting the clerkships' required patient encounters. Strategies for filling a gap in the students' required clinical experiences have been identified for all required clerkships and other required clinical experiences (e.g., subinternships). These include targeted clinical experiences, focused reading, use of online cases from national organizations [e.g., Computer-assisted Learning in Pediatrics Program (CLIPP) cases, Simulated Internal Medicine Learning Experience (SIMPLE) cases, WISE-MD surgery cases] or internally developed cases or modules. Some clerkships specify simulation or other non-patient-based mechanisms to meet objectives, especially when the required experience is a procedure that can be met using a simulation. Adequacy of the patient base across all clerkships also is monitored using UMEDS data. The division of research and evaluation of the office of educational affairs completes an annual UMEDS logging report that is shared with all clerkship directors and the associate dean for undergraduate medical education. Another mechanism used to ensure that students are having the required clinical experiences is the end-of-clerkship evaluations, which are administered by the office of undergraduate medical education (OUME) and completed by all students as a clerkship requirement. The evaluation forms for all clerkships specifically address the adequacy of the number and variety of patients in each clerkship and at each clerkship site. End-of-clerkship evaluation data are compiled as "cross clerkship" reports and "cross site" reports, which are distributed in an "unblinded format" to all clerkship directors both mid-year and at the end of the year, allowing for open discussions among clerkship directors, administrators, and others involved in the educational program. Although the adequacy of patient numbers and variety are the primary responsibility of the individual clerkship directors, the comparative end-of-clerkship data are also distributed in a "blinded format" to the respective department chairs and administrative leadership of the affiliate sites. This distribution allows both department chairs and the affiliate leadership to review and be informed about their respective adequacy of patient numbers and variety in comparison to other sites and clerkships.

There are no concerns about duty hours on any of the clerkships. Adherence to duty hour policy is monitored with questions included on the end-of-clerkship evaluations (e.g., "On average has your total number of hours worked per week during this clerkship been less than or equal to 80?"). These data are reviewed by clerkship directors and chairs, and appropriate changes are made to address any discrepancies in practice, with ongoing monitoring by the Associate Dean for UME. In addition, these data are included in the new course and clerkship review processes within curriculum committees allowing committee-level discussion.

In the last academic year, the school has implemented procedures designed to achieve complete compliance with the policy that clerkship grades must be completed within six weeks of the end of clerkships. As of the last quarter of AY 2010-2011 and first half of AY 2011-2012 this goal has been achieved with all clerkship grades being completed within six weeks of clerkship end. Students' evaluations of clerkships in the independent student analysis identified a few areas to which clerkship leaders should attend, however none of these issues was consistently found lacking.

Students appear to be generally satisfied with the clinical curriculum in years 3 and 4. In the independent student analysis, 94% of respondents were satisfied or very satisfied with the variety of clinical sites available for clerkships; 82% of respondents were satisfied with the degree to which the clinical curriculum provided preparation for Step 2 CS and 75% satisfied with the degree to which the clinical curriculum provided preparation for Step 2 CK.

Elective Courses

Students are required to complete 24 weeks of elective courses. Currently, all time for electives is in year four of the curriculum; with the implementation of the LInC core clinical experience in May 2012, year 3 students will have an additional four weeks of elective time available in year 3. The maximum number of weeks of electives that students may take at other institutions is 24; the most recent graduating class took an average of eight weeks of "away" electives. In the independent student analysis, 93% of respondents indicated that they were satisfied or very satisfied with the variety of electives available at UMMS.

3. Separate Educational Tracks (if applicable)

Not applicable

4. Summary of Curriculum Structure

The "classic" curriculum was designed to allow students to achieve the educational program objectives and to provide some measure of integration. In addition to enhancing curriculum integration, the new LInC curriculum provides increased opportunities for students to achieve the educational program objectives and develop identified competencies. To mention only a few examples, the LInC curriculum provides additional opportunities for students to learn in interprofessional teams; the integrated case exercises provide additional experiences in medical problem solving and critical assessment of the medical literature. Other life-long learning skills also receive more attention in the LInC curriculum with the addition of a longitudinal journal club as part of the interstitial curriculum (formerly interclerkship curriculum); and the new determinants of health course better supports student development of competencies in patient and community advocacy. The LInC curriculum uses a variety of educational strategies, including small-group problem solving, labs, independent learning exercises, early opportunities for clinical experiential learning, and lectures; the frequency with which instructional methods are employed is well-balanced in the LInC curriculum, although the LInC curriculum includes more independent learning and active learning opportunities than did the classic curriculum.

Students learn in both ambulatory and inpatient settings across the curriculum. In the first two years of the LInC curriculum, students participate in the longitudinal preceptor program in which they are matched with preceptors in one of several disciplines, thereby working with their preceptors in both ambulatory and inpatient settings. In years 3 and 4, students learn in both settings with 6% to 50% of clinical clerkships and other required clinical experiences conducted in ambulatory settings in those clerkships that split ambulatory/inpatient time. Taken as a whole, this balance of ambulatory to inpatient experience provides an appropriate variety of experiences to meet educational program objectives. That the family medicine clerkship is completely ambulatory and the acting internships are conducted completely in in-

patient settings are appropriate for the goals of those learning experiences. Similarly, the balance of emphasis on primary care to specialty care across the curriculum clearly supports students' ability to meet program objectives and competency goals.

Students generally are satisfied with their educational program. In the 2011 AAMC GQ, 99% of respondents compared to 89% nationally) agreed or strongly agreed that they were satisfied with the quality of their medical education program. Eighty-nine percent of respondents (91% nationally) agreed or strongly agreed that they had acquired the clinical skills required to begin a residency program. Above 95% of respondents agreed or strongly agreed that they have an understanding of common conditions and their management; the communication skills necessary to interact with patients and health professionals; basic skills in clinical decision making and the application of evidence-based information to medical practice; a fundamental understanding of the issues in social science of medicine; an understanding of the ethical and professional values that are expected of a physician; and adequate preparation to care for patients from different backgrounds (national ratings are essentially the same). In the independent student analysis, 95% of respondents indicated that they were satisfied or very satisfied with the overall quality of the UMMS educational experience. Ninety-two percent of respondents were satisfied or very satisfied with the degree to which the UMMS education is preparing them for their career.

C. Teaching and Assessment

Supervision of Students

Appropriate supervision of medical student learning experiences is provided at all major teaching sites by faculty of the medical school. Students report high levels of satisfaction regarding the availability of preceptors (96% to 100% satisfied or very satisfied) and appropriate level of responsibility (95% to 100% satisfied or very satisfied) as reported by end of clerkship reviews (academic year 2009-2010). The volunteer physicians who supervise medical students must hold a UMMS faculty appointment. Those who teach in the educational program who do not have a faculty appointment are limited to guest speakers, standardized patients, and members of the Worcester community who participate in the community immersion experience (Community Health Clerkship/Population Health Clerkship), which is a two-week interprofessional activity under the supervision of a UMMS faculty member. Residents and/or postdoctoral fellows provide limited assistance in year 1 and year 2 courses (e.g., cancer concepts, host defense, infection, integrated case exercises, nervous system and behavior), primarily as small group facilitators; they often are paired with faculty members and very few have any role in summative assessment of the students. In all cases, the course leadership prepares them for their roles in the courses and orients them to course learning objectives. There are many programs available to graduate students, postdoctoral fellows and residents to enhance their teaching skills. Graduate medical education offers an institution-level *Resident as Teacher* session and a *Giving Feedback* session for residents across departments. Residents also are invited to participate in faculty development sessions.

Preparation of Residents and Others as Teachers

Clerkship	Objectives provided to residents (yes or no)	Departmental programs for teaching & assessment skills (yes or no and summarize)	Resident participation monitored (yes or no)
Family Medicine Clerkship	Yes	Yes – Sessions are included in PGY2 and PGY3 orientations. Topics include teaching in small groups, student precepting, and teaching in morning report	Yes
Internal Medicine Clerkship	Yes	Yes – Intern retreat includes sessions on assessment and feedback	Yes
Obstetrics and Gynecology Clerkship	Yes	Yes – Resident core lectures on teaching the teachers, residents as teachers in the new MSIII curriculum	Yes
Pediatrics Clerkship	Yes	Yes – Resident teaching retreats; sessions on teaching students, learning styles, teaching challenges, delivering effective feedback	Yes
Psychiatry Clerkship	Yes	Yes – Annual teaching retreat includes sessions on student wellness, giving feedback	Yes
Surgery Clerkship	Yes	Yes—Sessions n residents as teachings, teaching on the fly, overarching teaching skills, giving/receiving feedback	Yes

Assessment Methods and Processes

YEARS ONE AND TWO

Course	# of Exams	Contribute to Grade (Check all that apply)						
		Internal Exams	Lab or Practical Exams	NBME Subject Exams	Faculty/ Resident Rating*	OSCE/ SP Exam	Paper or Oral Pres.	Other†
Building Working Cells and Tissues	2	X					X	X
Cancer Concepts	1	X			X		X	X
Doctoring and Clinical Skills I	5				X	X		X
Development Structure and Function	6	X	X		X			X
Host Defense and Blood	2	X	X		X		X	
Infections	2	X						
Integrated Case Exercises I	18	X						
Principles of Human Genetics	2	X					X	
Principles of Pharmacology	2	X					X	X
The Brain	6	X	X				X	X
Determinants of Health	1	X					X	X
Organ System Diseases	7	X		X			X	X
Patients	1			X	X			
Doctoring and Clinical Skills II	3				X	X	X	
Integrated Case Exercises	15	X						X

* Include evaluations by faculty members or residents in clinical experiences and in small group sessions (for example, a facilitator evaluation in small group or case-based teaching)

† Describe the specifics in the report narrative

YEARS THREE AND FOUR

Course or Clerkship	Contribute to Grade (Check all that apply)					
	NBME Subject Exams	Internal Exams	Oral Exam or Present	Faculty/ Resident Rating	OSCE/SP Exams	Other*
Family Medicine Clerkship		X		X	X	X
Internal Medicine Clerkship	X			X	X	X
Obstetrics and Gynecology Clerkship	X		X	X	X	X
Pediatrics Clerkship		X	X	X	X	X
Psychiatry Clerkship		X	X	X	X	X
Surgery Clerkship	X		X	X	X	
Neurology Clerkship		X		X		X
Subinternship in Family Medicine			X	X		
Subinternship in Medicine				X		
Subinternship in Pediatrics				X		

* Describe the specifics in the report narrative

A wide variety of student performance assessment strategies are used throughout the curriculum. Virtually every course in years one and two of the LInC curriculum administers an internal exam, with two courses using an NBME subject exam. Two courses do not administer "written" exams (doctoring and clinical skills I and II and the patients course). Some of the other strategies include lab and practical exams, written problem-solving exercises, and short reflective papers. Courses in which clinical skills are taught appropriately employ standardized patient assessments and faculty critique. The principles of pharmacy course requires students to complete an on-line human subjects course. The clerkships also employ a wide variety of student performance assessment methods. All clerkships use clinical performance assessments based on the observation of residents and attendings; virtually all clerkships administer an OSCE; and all use some form of exam, approximately half of the clerkships rely on NBME subject exams and half use locally developed exams. Individual clerkships have developed additional strategies appropriate to the clerkship's learning objectives, such as a critical evaluation of preventive health recommendations, and case reports of evidence-based treatment recommendations.

Authority for setting standards for achievement/grading policy for the school of medicine is shared by the EPC, one or more of its curriculum committees (see the curriculum management structure discussed in the following section of this report), and course/clerkship directors. Broad policy and standards are determined by the EPC, which includes input from members of individual disciplines, and is informed by discussions at the curriculum committee level. A recent example of the exercise of this authority was the EPC vote to grade both foundations of medicine year 1 and 2 in the LInC curricula as credit/no credit.

Specific criteria for achievement of these grade levels are determined by individual course and clerkship leaders in conjunction with their respective curriculum committees. As an example of multidisciplinary assessment, the clinical clerkship faculty designed the required, multidisciplinary, performance-based *End of Third Year Assessment*. It was approved through the curriculum committee and the EPC as a graduation requirement for all students.

While the EPC sets standards for such grading policy as the requirements for repeating "failed" courses, the mechanisms for remediation are determined by the course directors, again in concert with curriculum committees and the basic science (BSAEB) and clinical science academic evaluation boards (CSAEB), to ensure that methods are appropriate to the discipline and the students' needs. Standards are enforced and decisions regarding application of policies for promotion through the curriculum are further informed by discussion at the CSAEB and BSAEB. These boards are composed of course and clerkship directors with participants from educational support offices such as the office of undergraduate medical education, admissions, student affairs and financial aid.

A formal review process conducted by the appropriate curriculum committee of the EPC for courses and clerkships was established in 2009. The process has been standardized such that each course/clerkship is reviewed by the appropriate curriculum committee in key areas; one area is the methods of summative assessment of student performance, evaluating the educational efficacy of the methods; the degree to which assessment methods are commensurate with institutional as well as course-specific objectives, and the degree to which the methods enable the school to measure student achievement of stated competencies; and the relative balance of methods used among the courses and clerkships. This process also offers the strength of providing an opportunity for peer feedback at the curriculum committee level with "best practices" shared among course leaders so that each can learn from the other collaboratively. Educational specialists in the office of educational affairs offers resources to support assessment practices including exam services such as grading, test construction consultation, and item analysis; standardized patient services including standardized patient training; and OSCE case development.

As part of the LInC redesign, all course objectives were reviewed and revised for existing courses, as well as for new courses as they are developed. The design team template for all LInC courses supports the connection of competencies, objectives and assessment by asking faculty to define these linkages and methods. Students' skills in problem solving, clinical reasoning, and communication skills are assessed throughout their preclinical and clinical curricula. Methods include problem sets, lab exercises, clinical- and cased-based projects, research papers, structured problem-solving sessions, a library online resources exercise, use of SimMan for simulated clinical problem-solving, cases related to peer and other healthcare professional communication, standardized and live patient interactions, OSCEs, presentations of formal and informal case-based problem solving including literature review and written problem-solving cases.

Since 1995, the EPC set a graduation requirement that all students must complete an *End-of-Third-Year Assessment* (EOTYA). Initially, this was formative with no minimal standard or performance threshold required. In 2005, the EOTYA was transitioned to a high stakes assessment, with achievement of competency performance standards as a graduation requirement. This comprehensive evaluation of clinical skills consists of eight OSCE stations, with cases representing content, both integrated and discipline-specific, from each of the six required clerkships. Each of the required third-year clinical clerkships contains an OSCE in which students interact with standardized patients. All of these involve observation of this interaction by supervising faculty who provide feedback to students after each OSCE case. Students also are observed taking histories, completing physical exams and communicating with patients and families directly on the wards and in clinic settings. Data from the end-of clerkship evaluations for 2009-2010 indicate that 88% (neurology) to 100% (family medicine and pediatrics sub-internship) of students agreed or strongly agreed with the statement that "residents personally observed me with patients (interviewing, counseling, PE); regarding observation by faculty, 73% (surgery) to 98%

(family medicine) agreed or strongly agreed with the statement that "faculty observed me with patients (interviewing, counseling, PE)."

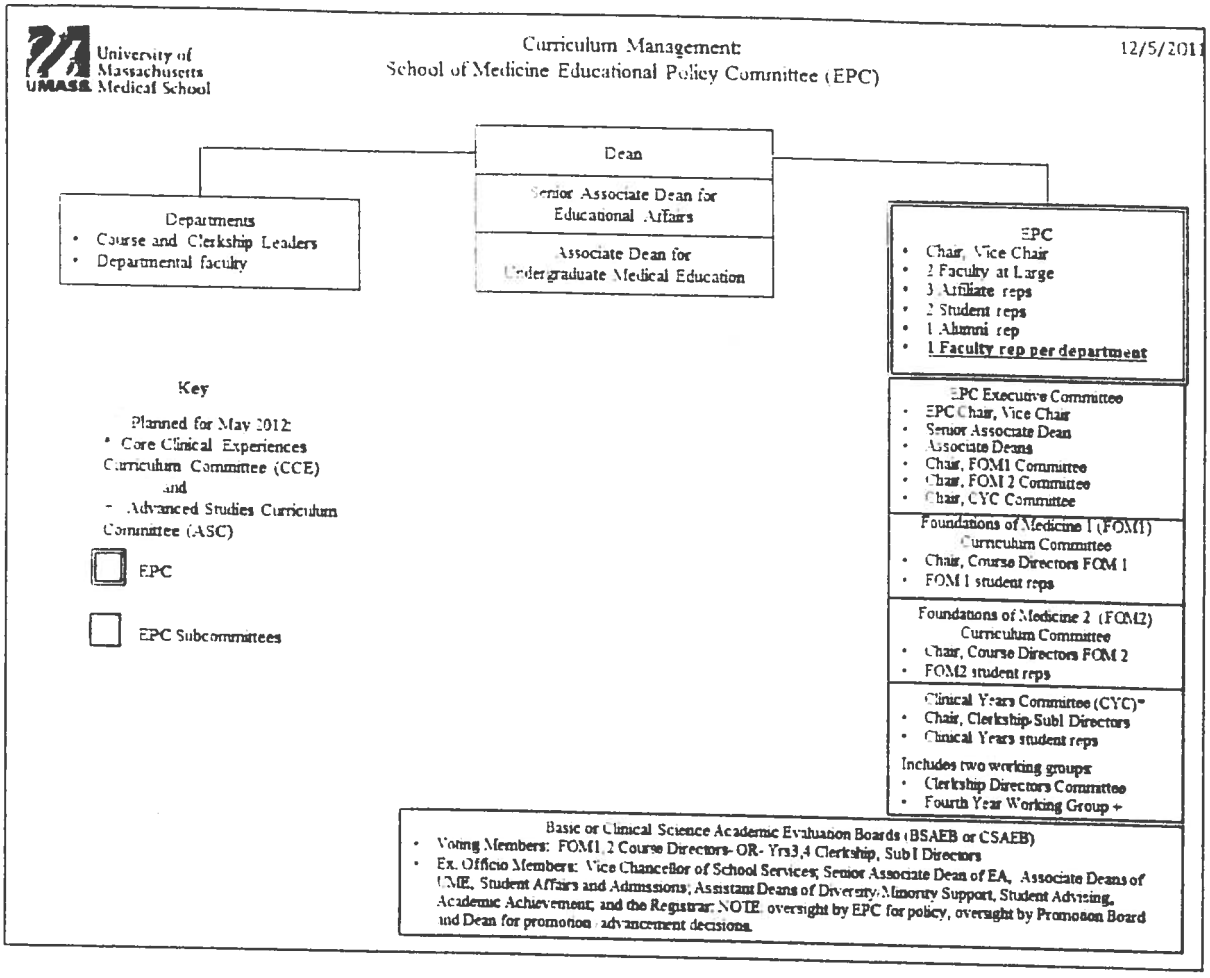
Formative mid-course and mid-clerkship feedback to students is required for all courses and clerkships. With implementation of the LInC curriculum, all courses offer several opportunities for students to receive feedback on their performance in the course, and an e-portfolio system allows students and faculty to review student performance. Policy set by the clinical years committee states that students must receive structured feedback during a meeting with the clerkship director or designee at or near the mid-point of any clerkship, and that attendance at this meeting will be confirmed by student and/or faculty signature on a form kept by the clerkship administrator such as mid-clerkship feedback paper, or other document. The school monitors the mid-clerkship feedback through the end of clerkship evaluations, with student responses to the following item: "I received individualized feedback about my performance at or around the mid-point of this clerkship". In the most recent data for the first quarter of AY 2010-2011, 86% of students reported that they received mid-clerkship feedback on the obstetrics and gynecology clerkship; 92% on the medicine, psychiatry, and neurology clerkships; and 100% on the pediatrics, family medicine, and surgery clerkships. In recognition that student recall can be faulty, a documentation system is now in place that confirms that all students are receiving mid-clerkship feedback.

Narrative assessment is provided in the courses in the first two years of the curriculum in which the quality of faculty contact with individual students is sufficient to enable an assessment. Narratives are a part of the assessment of student performance in all clerkships. As mentioned above, the school has worked diligently to implement procedures designed to achieve complete compliance with the policy that clerkship grades must be completed within six weeks of the end of clerkships. Based in the office of undergraduate medical education (OUME), a centralized monitoring process and data base to support the tracking of clinical grade turn-around and any reasons for delay has been implemented. OUME sends frequent reminders of the due dates for clerkship grades, with data on those grades that have been received in a timely manner and those that are outstanding being provided to the clerkship directors and administrators, as well as department chairs, and ultimately the dean. The school's efforts have been rewarded. In AY 09-10, an analysis of grade return for required clinical clerkships, including required subinternships, revealed that grades were available to students within six weeks 57% of the time; as of the last quarter of AY 2010-2011 and first half of AY 2011-2012 this goal has been achieved with all clerkship grades being completed within six weeks of clerkship end.

D. Curriculum Management

1. Roles and Responsibilities

The mechanism for the curriculum management planning, implementation, evaluation, management, and oversight at UMMS is governed by the Educational Policy Committee (EPC) and its subcommittees. This group determines the policies for the medical education program and has the authority to assure that the curriculum is integrated. The EPC reports to the dean and is responsible for "developing and monitoring educational objectives; curriculum content, methodology, and assessment; overall curriculum review including outcomes and evaluation; ongoing management of the curriculum, including scheduling and academic calendars, new course and new program approval; policy creation; innovation; and awards."



Voting members of the EPC include one member from each academic department selected by the academic chair of the department in consultation with departmental faculty, one alumni representative chosen by the alumni council of the school, up to three faculty representatives from major affiliated hospitals, two medical students chosen by the student body committee, and two additional faculty selected by the faculty council to serve as representatives of the faculty at-large. The dean selects the chair and vice chair of the EPC.

There are four principal standing committees of the EPC, all reporting to the EPC as the parent committee: three curriculum committees (year 1, year 2, and clinical years committees), and the EPC executive committee. The clinical years committee has two committees – the clerkship director's committee and the fourth-year working group. Collectively these EPC committees are charged with implementing and monitoring the integration and coordination of course content, methods and objectives within each year of study and across all years of the curriculum. The membership of three curriculum committees consists of the course or clerkship directors for each year of study, and student representatives for the respective year of study. The curriculum committee chairs are appointed by the associate dean for undergraduate medical education in consultation with the senior associate dean for education and serve the EPC through the educational policy committee executive committee. The executive committee of the EPC is chaired by the EPC Chair. Its membership includes the EPC Co-Chair, leadership of all three curriculum committees, director for the interclerkships, the associate dean for undergraduate medical

education, the associate dean for student affairs and the senior associate dean for educational affairs. Two additional committees responsible for the core clinical experiences (year 3) and for the advanced studies curriculum (year 4) will be implemented in May 2012 with implementation of the latter half of the LInC curriculum. The composition of the EPC and its committees has yielded a curriculum management structure that recognizes the shared governance of the faculty and administration.

During the design, development, and implementation of the new curriculum, another group, the Learner-centered Integrated Curriculum (LInC) Trustees, was created to advise the dean on the program redesign and realization. This group has been chaired by the associate dean for undergraduate medical education (UME) and has included many representatives from the EPC. As of February 2012 their recommendations received final approval from the EPC, but during the process the recommendations were often sent back to the LInC Trustees for modification and reconsideration prior to final approval. The LInC Trustees group will sunset after the new curriculum is fully implemented. Discussion with the faculty and dean's office educational leadership confirmed that the LInC Trustee group assisted the EPC in the transition from the old to the new curricula during these last two years during which the "classic" and LInC curriculum has been simultaneously offered. The EPC oversight was maintained throughout the process, but the LInC Trustees and their design teams played a major role in the creation, planning, design, and rollout of the new curriculum.

There is integrated institutional responsibility for the curriculum, and the curriculum appears to be both coordinated and coherent. Examples of integration cited by UMMS in the basic sciences include the shared leadership of all foundations of medicine (FOM) 1 and 2 courses with a basic science and a clinical co-leader, and the establishment of new longitudinal courses that cross periods of study and integrate content across courses (e.g., integrated case exercises, determinants of health, and doctoring and clinical skills across years 1 and 2). In the clinical years, the interclerkship program supports the comprehensive integration of topics such as domestic violence, patient safety and quality, and multiculturalism across disciplines and health professions. Additionally, the learning communities are designed to support ongoing monitoring and continuity through twenty learning community groups each with a faculty mentor who follows students longitudinally across all four years of the educational program. The dean's office supports the learning community mentors by paying 25% of their salaries.

As the new LInC curriculum has been introduced, the integration of this program across courses and years is being tracked with the LInC evaluation plan, which specifically identifies "integration" as a component for programmatic assessment. Integration falls under the oversight of the EPC, but it is often carried out at the curriculum committees and subcommittees. Integration between basic and clinical science is being promoted by having both a basic scientist and a clinician co-chair each course. For example, the educational content of the brain, nervous system, and behavior course is integrated with the psychiatry and neurology clerkships. In this specific situation, the integration is supported by having a number of clinical faculty members who teach in the clerkships also teach portions of the year 2 brain, nervous system, and behavior course. Establishing a new longitudinal curriculum committee, which will work to integrate information across the entire LInC curriculum, currently is under discussion.

All required courses and clerkships are reviewed annually thorough formal presentations at meetings of the appropriate curriculum committee, with technical assistance offered by the OUME staff and professional staff in the division of research, evaluation and assessment; and oversight provided by the associate dean for UME. The course/clerkship leader provides a formal presentation to the respective curriculum committee (i.e., FOM 1 committee, FOM 2 committee, and Clinical Years Committee) addressing course objectives, overall structure, didactic content, quality of teaching, methods of pedagogy, opportunities for formative assessment, methods of summative assessment, integration of basic/clinical sciences and with

other courses, program effectiveness overall and quality of clinical experiences/cross site quality (as relevant); presentations include student feedback and data and materials from curriculum sessions. Live feedback from the committee is recorded during review sessions to allow the course director to act on this feedback directly. The course/clerkship director develops a summary report of strengths and weaknesses incorporating this feedback, as well as an action plan. This plan is then presented to the relevant curriculum committee and course/clerkship review summary reports are posted on the EPC website for broad access by all curriculum committees, the EPC and faculty at large. Follow up on the course/clerkship summary report action items is the responsibility of the respective curriculum committee chair in partnership with the EPC executive committee as the venue for determining progress. Course/clerkship directors are responsible for bringing this report to their sponsoring department chairs. The Associate Dean for UME is responsible for overall monitoring and ensuring that outstanding issues are addressed in a timely fashion.

The senior associate dean for educational affairs compiles an annual educational program report on the curriculum that is distributed to all curriculum committees, the EPC, the executive council, all department chairs and the other school and medical center leaders. These reports provide an overview of the entire curriculum. In addition to these reports, the EPC has sponsored curriculum retreats at least every year as part of implementation of the new LInC curriculum redesign. Other retreats are occasionally held for parts of the curriculum. It is planned that a comprehensive review of the entire LInC curriculum will be conducted every five years.

Strategies by which faculty can review the objectives, content and pedagogy of individual courses and clerkships and of years of the new curriculum have been designed and implemented, as described above. However, systems by which the faculty conduct periodic review of each segment of the curriculum, as well as the curriculum as a whole, are not yet developed completely for the new curriculum. Although the entire "classic" curriculum was reviewed as the precursor to its redesign, the strategies for continuing, periodic review of the curriculum as a whole will not be designed until implementation of the new curriculum is completed in academic year 2013-2014. Progress in completing the design and installation of all aspects of a curriculum evaluation program should be monitored.

The school has relied heretofore on a system to monitor curriculum content that is limited in its utility and flexibility. The system to identify gaps and redundancies consists of an online curriculum calendar and goals/objectives database that can provide automated reports for lecture titles, curriculum hours, educational methods and scheduled assessments. These systems do not currently permit end user initiated, automated key word searches for content relating to specific areas. This information can be found through a labor-intensive manual search of online course materials which are housed in the learning management system and organized in a standard format. As noted, these searches are not end-user accessible and must be done by a database specialist. A new curriculum database system is being put into place (E*Value) and populated with the information necessary to conduct efficient reviews of content to determine if standards for content currency, relevance, appropriate redundancies, and gaps are being met. This new system is scheduled for full implementation by the end of academic year 2011-2012 at which time its efficacy in supporting the review of content can be better evaluated.

Curriculum hours for the preclinical years 1 and 2 are tracked through the curriculum database, which is managed in the office of undergraduate medical education (OUME). The reporting tool allows comprehensive reports to be generated by course, by methodology and by event across all required and elective curricular offerings in years 1 and 2. Hours are reported annually by the office of educational affairs and shared with curriculum committees. The curriculum database provides committee leadership

and course directors with the total number of scheduled course hours, exam hours and time available for independent study, enabling them to design a course schedule that safeguards independent study time, optimizes the spacing of exams and maintains a balanced representation of curricular requirements across courses and across periods of study. Curriculum committees are responsible for determining the start and stop dates of each academic year and for scheduling major in class assessments. These practices are monitored through end-of-course evaluation forms, which specifically ask for students' assessment of the workload within each course. These ratings are compiled across courses as part of the cross-course reports, which the OUME distributes annually to the curriculum committee membership, course directors, and committee leadership. With implementation of the LInC curriculum, scheduled curriculum time has been reduced overall and courses are scheduled for no more than 22 ½ hours each week. In the process of setting these policies, a standard weekly template was designed that allows students to become accustomed to a consistent daily and weekly schedule. For the clinical years, the duty hour policy in place since 2005 set the number of hours to be worked in a week at no more than 80; and mandated one day free of all clinical and educational responsibilities over a seven-day period, a limit of call to not exceed every third night, continuous on-site duty not to exceed 24 consecutive hours, and that students work no later than 6:00 pm on the evening before an interclerkship or other all-day educational event. With the ACGME duty hours policy changes for interns in 2011, at the clerkship directors' November 2010 committee meeting it was decided to link student 'duty' hours to those of interns (PGY-1 residents). Clerkship directors are responsible to ensure that the policy is being followed. In addition, the policy is monitored through questions on the required end-of-clerkship evaluations in which students are asked to report if each tenet of the policy was met in the clerkship. Their responses are contained in clerkship reports reviewed by the clinical curriculum committee and the office of undergraduate medical education.

The chief academic officer at UMMS is the dean; he has delegated responsibility for the medical student educational program to the senior associate dean for educational affairs. Several offices report to the senior associate dean, including undergraduate medical education, graduate medical education, continuing education, student affairs, admissions, and allied health and interprofessional education. Both the associate dean for undergraduate medical education and the senior associate dean for educational affairs serve in advisory and management capacities for the curriculum in support of the dean's institutional responsibilities and broad oversight.

The office of educational affairs, which is under the direction of the senior associate dean, serves as the operational core for the school's educational mission; supporting the undergraduate medical education program in the OEA are the office of research, evaluation and assessment; UMMS simulation center; standardized patient program; and center for academic achievement. In total, the OEA is supported by full- and part-time positions that include five staff, 17 professional staff, and 6 faculty positions. Additional operational support for the undergraduate program comes from the office of undergraduate medical education, headed by the associate dean for undergraduate medical education and comprised of the (part time) directors of community based education, curriculum and faculty development, interclerkships program, international medical education program, physical diagnosis I and II, summer research program, longitudinal preceptorship program, and physician, patient and society, along with professional administrative staff. Based on this information, the team concluded that the chief academic officer and his designee have sufficient and appropriate resources, personnel, and authority to support the design, implementation, and evaluation of the curriculum.

2. Geographically Separate Programs (if applicable)

Not applicable

E. Evaluation of Program Effectiveness

Evaluation of the effectiveness of the educational program at UMMS is managed through a comprehensive and coordinated system of assessment using several different measures and evaluation methods. Under the oversight of the office of educational evaluation (OEA), these data are compiled by the office of research, evaluation, and assessment (REA) and document the extent to which graduates achieve mastery of the learning objectives and the six competencies that have been identified by the school. Programmatic evaluation includes external performance based measures (USMLE, NBME and MCAT scores), scores on internal UMMS exams (written exams, including some custom NBME exams; OSCEs; and the end-of-third-year clinical skills assessment), AAMC GQ outcomes, AAMC Medical Schools Mission Management Tool information on UMMS graduates' practice types, longitudinal student self-assessment surveys; course and clerkship evaluations, student advancement and graduation rates, NRMP outcomes; specialty choice of graduates, the program director's survey of UMMS graduates, one-year-out PGY1 program directors survey, residents as teachers report, and a new alumni survey that will track long-term outcomes such as licensure rates, specialty certification, academic activity, practice type and location. Standardized evaluations are used for courses and clerkships. Students are required to submit evaluations at the end of each course and clerkship and response rates are 100% (see Appendix for table of outcomes used to determine educational program effectiveness).

Individuals and groups who receive data, usually in the form of reports, on each measure of program effectiveness include the key educational stakeholders: department chairs, the dean and associate/assistant deans, course and clerkship leaders, EPC and curriculum committees, program directors, leadership at UMMS and affiliated sites, and the faculty at large. This systematic and centralized approach seems to support continuous quality improvement and effective curriculum management. From a diagnostic standpoint this approach allows the faculty and key stakeholders to identify areas that are doing well and areas where problems may be occurring. For example, the data indicate that there is good student satisfaction with the curriculum, excellent performance on USMLE Step 2 clinical skills, and an identified need to teach procedures and technical skills. Identification of problem areas has allowed implementation of appropriate changes in some circumstances. For example, the identified need to do more teaching in procedures and technical skills has resulted in a new clinical skills simulation center and the inclusion of more clinical skills education in the curriculum.

There is substantial objective evidence of positive outcomes for students who participated in the "classic" curriculum. The Step 1 passing rate has been consistently at or above the national benchmarks. For Step 2 CK, the UMMS pass rates had been at or above national averages through 2009, but have been slightly below since that time. One of the rationales for developing the LInC curriculum was to address this trend. UMMS Step 3 pass rates have been well above the national averages. USMLE Step 1, Step 2 CK, and Step 3 scores and pass rates and scores are included in the Appendix. At the time of the survey visit, the first two years of the LInC curriculum had been implemented; however, students who entered medical school in the first year of the LInC curriculum have not yet taken the USMLE Step 1 exams. The constellation of outcome data, such as graduate performance in residency programs and board examination performance, necessary to determine the extent to which the new curriculum supports student attainment of educational objectives will not be available until at least one cohort of students has completed the new curriculum and participated in graduate medical education programs. Monitoring the effectiveness of the LInC curriculum through academic year 2014-2015 will provide outcome data for the students who served as the inaugural class of LInC curriculum students through their PGYI year (see Appendix for USMLE Step 1 and Step 2 performance data).

III. MEDICAL STUDENTS

See Appendix for the following documents:

- Student enrollment by class year
- Mean MCAT scores and premedical GPAs for the past three entering classes
- Table of the number of students who left school, exhibited academic difficulty, or took a leave of absence
- Sample Medical Student Performance Evaluation
- LCME Part I-B Financial Aid Questionnaire

A. Admissions

(see Appendix for student enrollment by class year)

1. Premedical Requirements

Requirements of medical student applicants include one year of general biology or zoology with a laboratory component, one year of inorganic and organic chemistry with lab, one year of physics with lab and at least one year of college level English literature or composition. Recommended courses include biochemistry, calculus, sociology or psychology and statistics. The technical standards for admissions of persons with disabilities are clear. The catalogue and student handbook accurately portray the admissions process, criteria and other information for prospective applicants. Except for a small number of MD-PhD candidates, all applicants are from Massachusetts and must meet rigorous residency criteria.

2. Selection

The admissions committee of UMMS is comprised of 24 voting members; all voting members are faculty of UMMS, plus two medical students in their second year of study. The committee comprises a group of faculty and others with an appropriate background to select a qualified applicant group. The responsibility falls solely with this group; the associate dean for admissions is not influenced by external financial or political pressures. Initial appointments for admissions committee members are for three years. Reappointment is determined by the committee on committees, a subcommittee of the faculty council. Members may serve successive terms at the discretion of the committee on committees. The director of admissions provides a workshop for admissions committee members during which members are instructed in committee responsibilities, on-line application review, and selection factors to consider when assessing applicants for a career in medicine, including the holistic review of an applicant's portfolio. Additional one-on-one counseling is available for new members, as deemed appropriate.

A weekly electronic file of verified applications from AMCAS is uploaded to a database that generates the electronic applications file. All applicants are sent an email with instructions for completing the on-line supplemental forms, which include a secondary application form, the residency validation form, the technical standards attestation form. Applicants also are requested to provide a list of courses they have completed that satisfy the pre-requisite course requirements. In the secondary application form, applicants are asked to respond to a series of short essay questions to provide the admissions committee with insight into whether the applicant may one day practice primary care in Massachusetts, in addition to general indicators of an applicant's preparedness for medical school.

The 24 voting members of the admissions committee are divided into teams of two; each of the two students is paired with a faculty member. Upon receipt of all required components, a completed application is randomly assigned to one of the teams for review to determine if the

applicant will be invited for interview; this decision is based on consideration of all aspects of the applicant's portfolio, including such elements as MCAT, GPA, background and life experiences, diversity characteristics, and depth and breadth of experiences. Applicants are interviewed twice. One or both of the interviewers may be members of the admissions committee, but this is not required. Whenever feasible, an applicant is not interviewed by the admissions committee members who had reviewed the applicant's portfolio. Otherwise, the assignment to interviewers is randomized. Applicants for the MD/PhD program also are interviewed by members of the research faculty. Applicants are invited for a half-day session that includes presentations by the associate dean for admissions or admissions director, the curriculum coordinator, a financial aid officer and student ambassadors. Each applicant has two, thirty-minute interviews; interviewers provide an assessment of the interview within one week using a standardized electronic format.

The team presents the applicant to the admissions committee, and a vote is taken for acceptance to the medical school. *Ex-officio* members, which include the vice provost for school services, director of admissions, and director of the MD/PhD program) do not vote but may contribute to the discussion leading to a vote. Acceptance is by majority vote with the associate dean of admissions as chairman voting only to break a tie. A quorum necessary for a vote of the admissions committee to take place is considered to be a majority of the voting members (13 of 24). This is a codified procedure for all standing committees.

If the admissions committee votes against provisional acceptance, the applicant will be placed on hold for possible presentation at a later time or for consideration for placement on the alternate list. However, if a member of the committee makes a motion to reject the applicant, a further vote is taken to reject the candidate outright. A majority vote is required with the associate dean again voting only in the case of a tie. Offers of acceptance begin in mid-October. Once 125 applicants have been given provisional acceptance, the admissions committee continues to discuss applicants and places applicants on a ranked alternate list.

The last several meetings of the admissions committee are reserved for teams to present any additional applicants who had been on hold and whom they consider acceptable for admission. Each team selects as few as none to as many as five additional applicants for the second alternate list, a process overseen by the associate dean. Thus, there is a robust process to assess and reassess candidates until a full class of matriculates is processed. This process, the prerequisites, and standards including those individuals with disabilities are laid out clearly in the medical school's catalogue and student handbook materials.

Applicants are notified of their provisional acceptance by US and electronic mail. They are informed that their eventual acceptance and matriculation depends upon: passing a criminal background check (CBC) and upon successful completion of current coursework. Accepted applicants are required to review the blood borne pathogens policy, and complete and return the statement of acknowledgement to the admissions office.

UMMS offers one dual degree, the MD/PhD. For applicants to the MD/PhD program, the same criteria and standards must be met as for the MD degree and the process proceeds in the same manner described for MD applicants with representation from the graduate school of biomedical sciences, appropriate clinicians and basic scientists in the selection process. All offers of acceptance are sent out jointly by the school of medicine and the graduate school of biomedical science.

Despite the state requirement that students must be residents of Massachusetts, except for a small number of MD/PhD candidates, the school attracts a qualified cohort with an entering GPA average of 3.57 to 3.67 over the past seven years, and an MCAT composite consistently above 31 (most recently 32.1, 2010-

11). The total number of applicants is trending upwards and the class size was increased to 125 in academic year 2009-2010 without compromising on quality of the matriculate (see Appendix for students' MCAT and GPA data).

There are multiple overlapping authorities and policies for recruitment of a diverse student class with an emphasis on populations underrepresented in medicine, first-to-college applicants, individuals from schools with low graduation rates, those interested in primary care, particularly in an underserved, urban or rural locale, and local populations such as those of Portuguese descent. The Worcester Pipeline Collaborative was established in 1996 as a partnership among the local Worcester community, educational institutions (K-16), and business partners to support programs designed to prepare students from populations under-represented in health and science professions and economically disadvantaged for health science careers in technology, research and the health professions. Two of these outreach programs include the *High School Health Careers Program (HSHCP)* and the *College Summer Enrichment Program (SEP)*. The HSHCP is a summer residential program during which sophomore and junior high school students learn about healthcare and science professions; the SEP is a four-week residential program for undergraduate sophomores and juniors interested in entering the health professions designed to improve their qualifications for admission to professional, graduate and/or medical school. The *Post-Baccalaureate Program (PBP)* was developed in 1988. Students from under-represented groups or disadvantaged backgrounds who have completed applications to UMMS and meet the Massachusetts residency requirements but were not accepted are considered for participation in this program. Up to six students per year have been enrolled in the program; to date, 66% of post-baccalaureate students have been accepted to the school of medicine. A *Baccalaureate MD Pathway* program recently has been established in partnership with the four undergraduate University of Massachusetts campuses (UMass Amherst, UMass Boston, UMass Dartmouth, and UMass Lowell). Undergraduate students in their fourth semester of pre-medical coursework, who have competencies and experiences that will enable them to care for the culturally diverse populations, and who show promise for a career in medicine will be selected to participate in the program. Students accepted into the pathway will be required to participate in non-academic enrichment programs as part of a "core curriculum," as well as a summer program at UMMS after their sophomore and junior years. They will be expected to apply to the School of Medicine as early decision applicants and will be strongly considered by the admissions committee if they have maintained their academic credentials and professional demeanor. The first cohort of potential baccalaureate-MD pathway students matriculated at the undergraduate campuses in the fall of 2011. It is anticipated that the program will serve to recruit applicants from under-represented minority groups, students from low socioeconomic backgrounds and rural communities, and students from first generation college backgrounds.

The selection process for admissions uses a holistic review model responding to the UMMS diversity initiative; factors considered in the admissions committee's review of each applicant include "diversity in a variety of areas including, but not limited to, socio-economic background, educational background, work experience, nationality, languages spoken, ethnicity, race, gender." The most recent admissions data indicates that for the class entering in 2011 (see Appendix for full data tables):

- 46 applicants were verified by AMCAS as underrepresented in medicine; 26 of these applicants were interviewed, 12 were accepted, and eight matriculated.
- 27 first-generation college matriculants were accepted, 19 of whom matriculated at UMMS
- 15 economically disadvantaged applicants were accepted, 12 of who matriculated at UMMS
- Matriculants included 68 women and 57 men (women matriculants have been in the majority of the entering classes since 2003)

Achieving a diverse student body "remains a challenge" according to the institutional self-study; this

sentiment was reinforced through the survey team's discussions with students, faculty and staff. The PBP and Baccalaureate-MD programs (begun January 2010) are evolving programs that appear to hold potential for attracting a talented and diverse pool of matriculates. While there are programs aimed at broadening diversity among qualified applicants, the broad categories of several of the diversity characteristics (e.g., nationality, languages spoken, educational background) and lack of clear benchmarking appear to compromise the overall diversity agenda. By limiting the pool to Massachusetts' residents, the number of high quality diverse candidates is limited; despite a highly diverse population of students attending Massachusetts colleges and universities, the vast majority is not eligible to attend the UMMS.

3. Visiting and Transfer Students

Only rarely are transfer students taken into the third year (three students over the past three years), and only if the student has demonstrated satisfactory performance at a LCME-accredited school. Such applicants are reviewed by the associate dean for admissions and the associate dean for undergraduate medical education; interviews are conducted with the applicant by the associate dean for medical school admissions, the associate dean for student affairs, the assistant dean for student affairs/student advising and a senior admissions committee member and, if yielding a positive result, the application for transfer is submitted for a vote by the admissions committee.

The UMMS accepts visiting student elective applications from fourth-year medical students attending LCME-accredited allopathic and AOA-accredited osteopathic medical schools in the United States, Canada and Puerto Rico. Criteria for elective requests, length of experiences and requirements for educational standing, vaccination, liability coverage are clearly set. All students complete the VSAS application. The number and scheduling of visiting students are coordinated among departments, the office of student affairs, and the associate dean for student affairs. The total number of visiting students per year is limited by the availability of elective spots as determined by each elective coordinator and maintained by each clinical department, assuring that no single elective is oversubscribed by visiting and/or UMMS students. This integrated process between department coordinators and the Office of Student Affairs assures that appropriate resources are available for visiting students without compromising the resources for UMMS students. All LCME and AOA visiting student elective applications must be submitted at least eight weeks before the start of a requested elective. Visiting students are permitted to take a maximum of two, four-week electives (eight weeks) per academic year. Priority in scheduling electives is given to UMMS students until May 1st of each academic year; UMMS students may start requesting electives on April 1st of each academic year. Both the limitation on number of electives taken by visiting students and priority in scheduling until May 1 for UMMS students are intended to assure that UMMS students are not displaced by visiting students.

Visiting students from LCME accredited medical schools are required to complete the VSAS online application and upload their curriculum vita, transcript, photo, and an officially signed complete UMMS Immunizations Record form along with lab results attached to VSAS. Under the oversight of the associate dean for student affairs, the visiting student coordinator reviews the applicants verified home school statements to assure that the applicant is in good academic standing, has had training in HIPAA, OSHA safety measures and infection control precautions and BLS, has current medical liability and/or malpractice insurance coverage with a minimum of $1,000,000 per instance with an aggregate of $3,000,000, has personal health insurance and has passed Step 1 of USMLE.

UMMS generally restricts acceptance of international visiting students to those coming from schools with which UMMS has an established exchange agreement, schools at which UMMS students take international rotations, departmental request (usually for purposes of residency recruitment), and a limited number of other conditions acceptable to the director of the international medical education program in

the office of undergraduate medical education. International visiting students must be in their final clinical year of medical school, are held to the same standards and requirements as visiting students from LCME and AOA schools, and are limited in the type of elective to which they can apply (international visiting students may not apply for subinternships or emergency room rotations). Clear criteria are set for accepting such students with appropriate consideration of such issues as screening for infectious disease, immunization and blood borne pathogens.

B. Student Services

1. Academic and Career Counseling

(See Appendix for table of students who left school)

Academic Counseling

The academic advisory system at UMMS has multiple components. The major parts of the system are the Center for Academic Achievement (CAA) and the Learning Community Program. The CAA's staffing includes a director, who serves on the student academic evaluation boards, and two staff members. The CAA provides assistance in a full spectrum of academic areas to students in academic difficulty who are self referred, who are proactively identified by faculty, or who are referred by one of the evaluation boards or the progress board. Areas of potential assistance include study skills, test taking skills, clinical skills, professionalism, and others. The CAA is widely used, with over 150 students and residents accessing its services last year. The center personnel do not participate in teaching or evaluation of students. The second major component of the academic advisory system is the Learning Community faculty mentor. Student advising responsibilities formerly served by individual student advisors are now the responsibility of one of 20 learning community mentors, each of whom is assigned to small group of six to seven incoming students for continuity based advising over the four years of medical school. Faculty mentors provide general mentoring, as well as academic advising and advocacy; the one-on-one relationship between mentors and students promotes continuity of information, tracking of student needs and dedicated support through all years of medical school. The mentors may serve as a first entity in identifying students in academic difficulty. In order to prevent conflicts of interest in academic advising, mentors teach students and may give formative feedback but have no role in promotion or assessment decisions for the assigned students whom they are mentoring. Overall students are satisfied with academic counseling and mentoring. In the 2001 AAMC GQ, 80% (72% nationally) of respondents were satisfied or very satisfied with faculty mentoring (respondents did not have experience with the learning communities program). In the independent student analysis, 56% (19% neutral, 19% unsure) of respondents were satisfied or very satisfied with the mentorship and advising provided through the learning communities; only 4% of respondents were dissatisfied or very dissatisfied with the services in the CAA (the majority, 49%, indicated that they were "unsure").

Students who receive a less than satisfactory grade on any examination or at the midpoint evaluation on a clerkship are contacted directly by the course or clerkship coordinator by email and offered the opportunity for an individual meeting. In addition, all student grades are also monitored after each examination and during each clerkship by one of the two academic evaluation boards for basic science courses (BSAEB) or clinical science courses/clerkships (CSAEB). Each board meets regularly to review academic, technical standards and professionalism issues that may have been raised by the performance of any student. The CSAEB meets monthly; BSAEB holds "mini-meetings" at the end of each exam period with involved course coordinators and "full" meetings quarterly. This frequent monitoring provides

the opportunity for early identification of students in academic or professional difficulty and recommendations for remediation. Board meetings are chaired by a member of the faculty and attended by the course directors of the required basic or clinical science courses and the director of the end-of-third-year assessment (EOTYA) examination. A number of faculty and administrators also serve ex officio on each of the boards and regularly attend meetings in order to assure an integrated system of academic assistance for students in academic difficulty, including the associate dean for student affairs, associate dean for undergraduate medical education, assistant dean for student affairs/advising, assistant dean for academic achievement, vice provost for school services and director of pipeline initiatives (for integrated follow-through to students who may be known through one or more of these initiatives); also attending as necessary are representatives from admissions (for background information and feedback information on admissions decisions), and representatives from the offices of the registrar and financial aid (to provide information to the boards on financial aid consequences to students of decisions and to provide timely assistance to students if needed).

A 2-day prematriculation program ("Jump Start") for students at potential academic or social risk was implemented for the first time for students admitted in academic year 2010-2011. Students identified to be at potential academic risk includes those who spent extended time (greater than five years) between college and medical school; are among the first generation in their families to attend college; are minority ethnic status; single parents; and students whose MCATs and undergraduate cumulative averages suggested the potential for academic risk. Identified students were invited to attend the program; 15 students attended the first year of the program. The program consisted of sessions from the center for academic achievement, stress reduction/ mindfulness center, counseling service, a review session for an upcoming course in the new LInC curriculum, and a half-day observation at a clinical site. Material also was presented on resources at the school and in the city and on preventing burnout. The program was evaluated by the attendees and will be reviewed and modified on an ongoing basis as indicated.

The overall graduation rate is quite high at 99% and the attrition rate is quite low. Only about one student per year will opt to leave or be dismissed. Over 20% of students extend their graduation from the fourth to the fifth year for enrichment reasons, including participating in research projects, international work, or a pathology fellowship year. Other common reasons for extension include academic reasons, maternity leave, personal or family illness, and career uncertainty.

Career Counseling

Career guidance and residency planning are supported through the advising system, which at the time of the survey visit was undergoing transition from students working with assigned advisors to working with learning community mentors. Faculty development sessions on career guidance and residency planning for the mentors will include sessions on career choice and familiarity with the AAMC's Careers in Medicine website. In the career advising system, oversight of which is provided by the associate dean for student affairs, a fairly comprehensive set of activities are provided designed to provide assistance to students in selection of career choice and structuring the electives portion of their curriculum. Activities in years 1 and 2 include the assignment of an advisor (now learning community mentors); support in arranging individual "observerships"; a "career night" sponsored by the district medical society; presentations by specialty interest groups; and a two-hour large group session in the middle of year 1 called "the big picture" designed to help students start thinking about careers and to participate in the phase I activities of the Careers in Medicine (CIM) website. Several large group sessions are scheduled

it the end of year 2 and throughout year 3("Career Day part 1", "Career Day part 2", "Career Day part 3—Soup to Nuts" during which career choice is addressed and students are encouraged to progress through the appropriate sections of the CIM website. A required "fourth year review" meeting is set with each student to meet with the associate dean for student affairs or with one of the two assistant deans (student's choice) during which they discuss the student's fourth year plans and the student's choice of a specialty coach. UMMS only permits electives during the fourth-year curriculum. Students must obtain approval for the electives they plan to take from their faculty advisor or departmental faculty specialty coach by submitting their proposed educational plan (PEP). Specialty coaches are knowledgeable about their own specialty and provide counseling with regard to residency training programs based on the student's individual transcript and strengths. They are also expected to review the student's personal statement, and advise about intramural and extramural elective choices based on both educational and residency application indications. These two one-on-one reviews (with advisor or specialty coach followed by the centralized fourth year review by an assistant dean or the associate dean in the office of student affairs) are structured to assure that students make appropriate choices in electives and that they are optimally prepared for the residency application process.

In the 2011 AAMC GQ, respondents expressed general satisfaction with career planning services, with 62% (59% nationally) of respondents satisfied or very satisfied with career preference assessment activities (24% neutral, 24% nationally); 68% (66% nationally) of respondents were satisfied with information about specialties (17% neutral, 19% nationally); and 63% (59% nationally) respondents expressing "overall" satisfaction with career planning services (23% neutral, 24% nationally). Respondents were least satisfied with information about alternative medical careers, with 41% (39% nationally) expressing satisfaction (27% neutral, 28% nationally). Respondents were generally satisfied with the PEP process as a means to review and communicate fourth year plans, with 59% of respondents satisfied with the process (27% neutral).

The independent student analysis showed that 94% of fourth-year students felt "adequately prepared for residency and career planning needs." There was less satisfaction with the amount of time in the clinical curriculum to explore career options (73% satisfied or very satisfied; 25% dissatisfied). However, the majority of students are generally satisfied with the level of administrative support during the residency application process. Seventy-three percent of respondents are satisfied with career advising available in their fourth year; 53% are satisfied with the support provided to complete ERAS applications (29% neutral or unsure); and 52% are satisfied with support provided to prepare for interviewing (44% neutral or unsure).

Several changes are now in place in the LInC curriculum to address students concerns regarding time in the clinical curriculum to explore career options:

- core clerkships will start in May of the second year and end in April of the third year, allowing for two "early electives" before July
- four one-week "career exploration" electives were added during the core clerkships
- a "shadowing" program was instituted for pre-clerkship students, allowing them to meet with faculty in different specialties and follow them for one or more clinic sessions.

The MSPE is a joint responsibility within the dean's office. The associate dean for undergraduate medical education conducts a review of the written comments regarding professionalism and a final review of letters for inclusion of negative narrative comments from clerkship or electives directors. Negative comments are only included in the MSPE if they form a pattern of occurrence. The associate dean for student affairs, with the assistance of an editor, compiles and edits the letters based on records available to the office of student affairs and information provided by the student. The final level of endorsement is determined by a faculty committee (not by either of the associate deans). The summary is

limited to a summary statement of the student's performance-based assessments and any outstanding achievements. Both associate deans sign all letters (see Appendix for sample MSPE).

The fourth year is structured so that students have flexibility in scheduling required educational activities around residency interviews. If a student happens to be enrolled in a rotation when they have to attend an interview, the course directors will work with that student (within reason) to make it possible for the student to attend the interview. When the survey team members discussed this process with students, they had no complaints about scheduling interviews during fourth year. In discussions with the survey team, faculty and administrators noted that that the large majority of students match in one of their top residency choices. Since 2004, 55-70% of students match in one of their top four choices, and the overall initial match rate has been 98-99% in recent years.

2. Financial Aid Counseling and Resources
(See Appendix for LCME Part I-B Financial Aid Questionnaire)

The Financial Aid office provides all financial aid services to medical students; it also serves students in the graduate schools of biomedical sciences and of nursing. It is staffed by four full-time staff members: the director, assistant director, student loan manager, and administrative assistant. The financial aid office is centrally located sharing space with the registrar. Students on rotation communicate via e-mail, and staff is available during off hours by appointment. The office is open until 8 pm on the first Wednesday of each month. Resources are adequate to meet student needs. The office is easily accessible and maintains an "open-door" policy, encouraging students to speak with staff whenever it is convenient.

All students are sent information about and encouraged to complete the AAMC FIRST financial literacy on-line tutorial. A brochure about the FIRST program is included in orientation packets and referenced by the Financial Aid director during her orientation talk. First year students are sent summaries of their incoming student loan debt in the fall. Financial Aid is part of the admissions interview process, and included in the mandatory presentation is an explanation of how unsubsidized student loan interest accrues and the impact that an extra $1,000 of unsubsidized loan can have. There is another mandatory presentation during orientation activities for new matriculants, which covers budgeting and debt management. Voluntary workshops are held throughout the year, and in 2009-10 topics included: "What is your Financial IQ?", "Student Loan Repayment Realities", "Mortgage 101", and "Income Based Repayment and Public Service Loan Forgiveness". All graduating students who borrowed any loans during medical school must attend an in-person exit interview. These are held for groups of 10 to 15 students, and upon attendance at the group interview, students can then opt for an individual appointment with the Assistant Director. Each student is provided with an individualized loan summary at the group interview. The summary includes monthly repayment estimates, servicer information, and information about grace periods and forbearance availability for each loan. Students are very satisfied with the services provided by the financial aid office and with available debt management counseling. In the 2011 AAMC GQ, 93% of respondents (76% nationally) were satisfied or very satisfied with financial aid administrative services; 88% of respondents (65% nationally) were satisfied or very satisfied with overall educational debt management counseling; 87% of respondents (70% nationally) were satisfied or very satisfied with the senior loan exit interview.

UMMS students have a relatively low tuition and total indebtedness, a factor positively cited by many of the students with whom the survey team met. In the academic year 2010-11 total tuition and fees were $20,144, up from $15,736 in 2004-2005. Average educational indebtedness in 2010-2011 was $108,811(compared to the AAMC reported average of slightly more than $160,000) and up from $94,610 in 2004-2005. Six percent of graduates in 2010-2011 had indebtedness of greater than $200,000. Overall, tuition and fees remain in the lowest quartile of public schools. The school's tuition and fee refund policies are equitable and appropriate.

A new fee schedule that commenced in AY 2011-2012 was approved by the UMass Board of Trustees, for a total cost of $18,593 for tuition and mandatory fees. While this change represents a relatively significant increase of $2,855 (18% in relation to prior the year), UMMS tuition and fees remain well below all other public medical schools in the Northeast region, with UMMS ranking 11 out of 11 for the lowest total cost (tuition, mandatory fees and health insurance). Separate from this fee increase plan, a one-time laptop charge was instituted for all entering students commencing for the entering class in 2010 in order to support the laptop requirement approved by the EPC as part of the new LInC educational program. Students shared their perceptions during personal and group interviews with survey team members that the affordability of UMMS has been decreasing; however, 81% of respondents to the independent student analysis with UMMS financial aid packages are satisfied with the availability of financial aid and in the narrative of the report it is stated that, "As the cost of UMMS is low relative to other institutions this is somewhat expected."

The current administration has prioritized efforts to raise funds for scholarships. In academic year 2009-2010, the development office began a campaign to increase endowment funds for financial aid scholarships and six new endowments were established with a total value of $150,000. The school has substantially augmented institutional gift aid to both meet the needs of the increased class size as well as the increase in fees and have made the commitment that the level of gift aid for all students will continue to meet up to 80% of demonstrated need. There is also availability of a state subsidized loan program that is very favorable and has a service payback and low interest repayment options.

3. Health Services and Personal Counseling

The department of psychiatry operates the Student Counseling Services (SCS) as a separate division of the department. SCS provides a full range of confidential psychiatric and counseling services for students on-site through a facility physically separate from student and employee health, with medical records housed separate from the student's medical record. It should be noted that no member of the SCS staff (including the director) plays a role in grading for any course and no member of the staff sits on any evaluation or progress board. No charges are generated, with costs for services supported by the mandatory student health fee. The first visit is generally offered within 24 to 48 hours after initial contact; if students need to be seen more quickly, they will be see the same day or immediately as necessary, because the center has 24/7 coverage. A drop in clinic was initiated two years ago and has been successful. UMMS has recognized the need for expansion of the SCS as the class has grown and has increased the size and scope of the service as a result. Information about the SCS is in the student handbook, available on the student counseling website, and in the orientation packet. In addition, the SCS sends out emails during the year to all students in a given class providing some psychological perspective on the sources of stress in their particular year, and reminding students how to set up an appointment. Student use of SCS is substantial with 45% of the 2010 graduating class having accessed these services while in medical school. In the 2011 AAMC GQ, 81% of respondents (70% nationally) were satisfied or very satisfied with the personal counseling services available to them; 83% of respondents (70% nationally) were satisfied with student mental health services. In the independent student analysis, 38% of respondent were satisfied with student counseling services (57% were unsure or neutral).

The school provides programming and curriculum-based content aimed at promoting student wellness and a positive adjustment to the demands of medical school. The school recognizes the limitations of the current student fitness center and has invested in a state of the art fitness facility that will be housed in the Sherman Center, which is located adjacent to the current medical school building and is scheduled for occupancy in academic year 2012-2013. In the interim, the school offers a membership option for

students to use the UMass Memorial Center for Health and Fitness, located on campus, for a discounted fee. Wellness programs are included in the curriculum starting in orientation with a session on "emotional survival" and included in each of the career development presentations referenced earlier in this report. Other programs are easily available to the students, such as the short stress management workshops offered by the SCS; the center for stress reduction in the department of psychiatry offers both formal programs and drop in sessions. The development of the learning communities in the new LInC curriculum reinforces this area through the support offered students by the members of their learning communities. In the 2011 AAMC GQ, 85% of respondents (68% nationally) were satisfied or very satisfied with student wellness programs.

Health insurance is required of all students and a Blue Cross/Blue Shield plan is available through the school and includes dependents as necessary. Students may pay for this plan or provide evidence of coverage under another comprehensive plan. In addition there is a health fee that covers the SCS and required clearances, flu and TB clinics, and ability of students to receive primary care services in the student health service (discussed below) without co-pay or billing of professional fees. Insurance is billed for all other services. Disability insurance is required and available at a cost of $69 annually for the MedPlus Advantage insurance plan offered through the AMA. In the independent student analysis, 30% of respondents indicated that they were dissatisfied with health insurance costs, although largely satisfied with the benefits it provides. Only 7% of respondents were dissatisfied with accessibility of health services for urgent needs, and only 4% were dissatisfied with accessibility for routine needs. In the 2011 AAMC GQ, 91% of respondents (73% nationally) were satisfied or very satisfied with student health services.

Preventive, diagnostic, and therapeutic health services are offered through the student health service (SHS). The SHS is a division of the department of family medicine and community health and is located in a building adjacent to the hospital and the school. The SHS accepts the school's Blue Cross/Blue Shield and any other insurance that is acceptable to UMass-Memorial. Office hours are 8:00 AM to 4:30 PM, Monday through Friday; medical coverage is provided 24/ through the on-call physician for the SHS.

Students insured under the UMMS plan can choose to have a primary care physician through the SHS, one of its community sites (which are all within five miles of the school), or keep their own primary care physician.

The EPC recently developed a policy stating that the "designated director of a course or health delivery service is responsible for a plan to ensure that health professionals who provide psychiatric/psychological counseling or other sensitive health services to a medical student must have no involvement in the academic assessment or promotion of the medical student receiving those services" and charging the associate dean for student affairs to provide oversight for the enforcement of this policy. This policy makes it clear that the school prohibits those who provide sensitive health services to a student from participating in the assessment of that student; however, responsibility for the design of systems that will be employed to assure this separation of performance assessment and provision of health services has been delegated to the individual directors of courses and health delivery services. The survey team noted that it will require vigilance on the part of the associate dean for student affairs to assure that plans are developed by all directors of courses and health delivery services, that each plan that has been developed is appropriate, and that each plan is implemented. Significant monitoring of the implementation and enforcement of this policy will be will be required to assure that the various plans are developed, implemented, and successful in providing this protection to the students.

UMMS has a program in place to monitor and provide immunizations with oversight by student health services. The policies and guidelines for prevention and treatment of exposure to infectious and other environmental hazards are overseen by the office of student affairs in close consultation with student

health services. A policy on blood-borne pathogens was developed in consultation with UMass Memorial and formally approved by the EPC and include a statement of financial responsibility for medical care of students with "needle sticks" or other health related exposures, with UMMS assuming responsibility for payment of expenses not otherwise paid by the site or the student's health insurance policy. All policies are broadly communicated to students, and repeatedly reinforced throughout the four years of the educational program. Students who met with the survey team knew the policies or knew where to access the policies. All enrolled students must pass an annual online standard-precautions module and quiz with a score of 90%.

C. The Learning Environment

The school has an antidiscrimination policy as follows:

STATEMENT OF NONDISCRIMINATION

The University of Massachusetts Medical School (UMMS) does not discriminate on the basis of race, color, creed, religion, gender (including pregnancy, childbirth, or related medical conditions), age, sexual orientation, gender identity and expression, genetic information, national origin, covered veteran status, disability, ancestry or any other characteristic protected by law in employment, admissions, participation in its programs, services and activities, and selection of vendors who provide services or products to UMMS. Further, UMMS is firmly committed to ensuring that all who work, study, visit or seek treatment here may do so in an environment free of harassment and/or discrimination.

The school has specifically defined the attributes of professionalism and has published a set of professionalism guidelines that is updated regularly and must be approved by the EPC. This document was most recently revised and approved by EPC in 2007. The guidelines are distributed to all students in the student handbook. In addition, they are discussed with the students in the transition to clinical care program and at the beginning of each clinical clerkship.

Before a new clinical partner is accepted or a new clerkship site is launched, the clerkship director visits the site and discusses expectations with them. Often multiple site visits are undertaken before students are assigned to a new site. Faculty development with clinical partners is undertaken prior to assigning students to a new site or when new faculty members are added to a site. All of the relevant policies, guidelines and procedures are disseminated through websites, e-mail and official school documents such as the student handbook, the catalogue, the strategic plan and the competencies document. All affiliation agreements note the mutual obligation of the site and the medical school to ensure a learning environment that promotes the professional values of the UMMS students and empowers the UMMS department chair sponsoring the program to redeploy students in the event of learning environment concerns at a site.

If a student feels that an instructor is not providing a professional learning environment, a formal mechanism exists for students to report instances of unprofessional behavior through the *Appropriate Treatment of Students* (ATS) document. Students may report concerns about anyone in the learning environment to a number of resource persons listed in the ATS document including course or clerkship directors, the associate deans for student affairs and undergraduate medical education, the senior associate dean for educational affairs, and personnel directly employed by the diversity and equal opportunity office (DEOO). Resource persons may help the student to clarify his or her concerns and assist the student in bringing the concern to the DEOO. All perceived infractions are investigated by the DEOO, as a division outside of the evaluation and promotion mechanisms of the school, in order to avoid any perception that grading may be consciously or unconsciously influenced by a report.

End-of-course/clerkship feedback forms include items related to the students' assessment of the learning environment in that course/clerkship, including an evaluation of the extent to which each faculty member is seen as a professional role model for the student through the question "this person is a professional role model for me." Compiled reports are sent to each course director, to the Chair of each involved department and to each residency training director for courses/ clerkships which involve residents. In order to assist with monitoring of the educational environment, UMMS has entered into the collaborative study with 17 other schools of the innovative strategies for transforming the education of physicians (iSTEP) study group. The survey team was informed of situations in which a department chair had discontinued a clerkship site due to an inadequate learning environment.

UMMS has clearly defined standards of conduct that are included in their *Appropriate Treatment of Students* policy and in their *Consensual Amorous Relationships* policy. These policies are available on the school website and are also referenced in the student handbook. The policies are discussed with students, residents and faculty during orientation and at other times. Based on the 2011 AAMC GQ responses, the incidence of student mistreatment at UMMS is significantly below the national average, with 9.7 percent of respondents (16.8% nationally) indicating that they had been personally mistreated during medical school.

UMMS's standards and procedures for student evaluation, advancement, graduation, disciplinary action, dismissal, and appeal are clear and are included under "academic regulations" in the student handbook. Survey team discussions with pre-clinical and clinical students confirmed broad student understanding of this area.

Student performance is closely monitored, and students are often sent for academic counseling prior to failing a course, if they are not doing well. If a student receives a marginal grade (low pass) or fails a course, they immediately come to the attention of the appropriate academic evaluation board (basic science or clinical sciences). In the basic sciences, the trigger that brings a student to the attention of the basic science evaluation board is usually based on exam performance. In the clerkships, poor performance noted at a mid clerkship feedback session or actual failure of a clerkship will prompt involvement of the clinical sciences evaluation board. When a student comes to the attention of an evaluation board, both the student and their learning community mentor are notified. The associate dean for student affairs also is notified. The evaluation boards are made up of course and clerkship directors and they are tasked to review the student's situation once a student is identified as being in academic difficulty. The evaluation boards have a wide range potential actions ranging from re-examination to repeating the course/clerkship, to referral to the progress board. If an action is taken that would delay a student's graduation, then automatic referrals to the progress board occurs. The clinical evaluation board has a clinical skills elective that offers another option for students who are having trouble in a clerkship. The evaluation boards use a precise set of rules to determine the specific impact that a failure will have on a student's educational situation. Recommendations vary depending on the student's current and past overall performance.

Unlike the evaluation boards, the progress board does not know the students. It serves as more of a legal board than the evaluation boards and is comprised of senior faculty. The progress board is a subcommittee of the EPC and is focused on student performance data and school rules. The progress board has a number of potential choices for a failing student including reversing the decisions of the evaluation boards, mandating repetition of educational experiences, dismissal of a student, etc. Any actions that could delay graduation or risk dismissal must go to the progress board. Professionalism issues, depending on the severity, may be dealt with by the associate dean for student affairs, the evaluation Boards, or the progress boards. Cheating or violation of the honor code will result in a referral

to the honor board (which currently is comprised of only faculty members) and also may be referred to one of the other boards. Appeals processes can happen at several levels. Students may appeal grades under three circumstances:

1. Grades that do not impact the student's promotion or retention are appealed to the chair(s) of the appropriate department(s) who convene a review committee. The committee makes a recommendation to the chair and the chair's decision is final.
2. Grades or unprofessional behavior that resulted in a decision of the progress board that has an impact on the student's promotion or progress at the school are appealed to the chair(s) of the appropriate department(s). If the student is not satisfied, then the grade is appealed to the dean, who convenes a panel to review the situation. The decision of the dean is final.
3. A grade, series of grades, or unprofessional behavior may place the student at risk of dismissal based on a vote of the progress board. Specific procedures are outlined by which a student files an intent to appeal: an ad hoc appeal committee is constituted, data and "testimony" are considered, and recommendations of the appeal committee are rendered to the dean. If the appeal committee disagrees with the original decision of the progress board, the dean asks the progress board to reconsider its decision; in the event of a continued disagreement between the progress board and the appeal committee, the dean makes the final evaluation of the appeal; the dean's decision is final.

The school has a written advancement and appeal policy, and these policies are included in the student handbook.

All current and former medical student academic records and other official student records are maintained in locked metal cabinets in the Registrar's Office in Suite S1-844 of the Medical School Building on the UMMS university campus. The dean, associate deans, registrar office staff, student's advisor and respective academic evaluation boards have access to the student records. Other faculty members may have access to the record for the writing of letters of recommendation for residency or other legitimate purposes upon written release by the student and approval by the registrar or dean. The school complies with FERPA and the Massachusetts Fair Information Practices Act to provide access for each student to their academic records.

Students have immediate access to both the electronic and written versions of their records through the registrar's office. Students receive and review a copy of their grades, sub-grades, and narratives at the end of each clerkship. Students may request modification of the compiled narrative from the clerkship director. If the student is not satisfied with the decision of the clerkship director, the appeal process for narrative wording changes is to the department chair. Appeals of grades must follow an appeals process that is published in the student handbook, and if a grade is changed on appeal, it will be changed in the records.

Study space, student lounge and relaxation areas and storage facilities for personal belongings appear to be adequate. Based on data in the AAMC Graduation Questionnaire, the students at UMMS are generally satisfied with the quality, quantity, and availability of study space, student lounge, and relaxation areas. Eighty-seven percent of respondents (78% nationally) were satisfied or very satisfied with student study space; 79% of respondents (67% nationally) were satisfied or very satisfied with student relaxation space. In the independent student analysis, 83% of respondents were satisfied or very satisfied with the student lounge and other informal gathering places for students. Respondents were not satisfied with their current exercise facilities with 57% very dissatisfied or dissatisfied; a new exercise facility will be available soon with the opening of the new education and research facility in 2012. In survey team discussions with the students, the students expressed satisfaction with the quality, quantity, and availability of study space, student lounge, relaxation areas, and storage facilities for personal belongings.

D. Student Perspective on the Medical School

Ninety-five percent of respondents to the independent student analysis indicated that they are satisfied or very satisfied with the overall quality of their educational experience at UMMS. This level of satisfaction also is evident from 2011 AAMC GQ data, in which 99% of respondents (89% nationally) agreed or strongly agreed that they are satisfied with the quality of their medical education. In the independent student analysis, 92% of the respondents indicated that they were satisfied or very satisfied that their UMMS education was preparing them for their careers. Eighty-five percent of respondents agreed or strongly agreed that deans and administrative leaders were available; and 81% agreed or strongly agreed that administration (including student affairs, undergraduate medical education, registrar, educational affairs) helped them resolve their concerns and issues. As noted throughout this report, students generally are satisfied with counseling and health services, educational facilities, and student relaxation and study space. The exception to this statement is student opinion of the exercise facility; 57% of respondents to the independent student analysis were dissatisfied or very dissatisfied with the university gym. As noted elsewhere in this report, the new Sherman Center building, due to open in 2012, will have a new exercise facility.

Students with whom the survey team spoke characterized the school's culture as one of dedication to patient care, and expressed gratitude for what they perceive to be a positive environment that is fostered through a collaborative community of faculty and students. These students consider the faculty to be a great strength of the school. Students in their first years of medical school are pleased with their curriculum, and students in the latter years appeared to be excited for their student colleagues regarding the additional learning opportunities presented in the LInC curriculum. Respondents to the independent student analysis were given the opportunity to provide free responses to the question, "What is one aspect of UMMS you would improve?" Several of these comments addressed issues with the curriculum and mentoring, indicating that they would like more opportunity for electives early in their clinical years and greater integration among courses, and that they would like more mentoring by faculty throughout medical school. The students note that all of these issues will be addressed by the LInC curriculum. The students with whom the survey team talked explained that there is student representation on every curriculum committee and that they feel the faculty and administration is exceptionally responsive to student requests and opinions. In the 2011 AAMC GQ, 81% of respondents (74% nationally) were satisfied with the participation of students on key medical school committees.

Students expressed some concerns regarding the diversity of faculty role models; in the independent student analysis 24% of respondents were dissatisfied or very dissatisfied with faculty diversity, although the students' analysis of these data indicated that student opinions on diversity seem to vary based on their personal definitions and on the degree of diversity they have experienced in their pre-medical school lives. It is interesting to note that the students with which the survey team talked underscored their perceptions that administration is responsive to their concerns by telling the team that when students raised their concerns about the diversity at UMMS, the administration encouraged the students to develop a student initiative around diversity programming.

IV. FACULTY

See Appendix for the following documents:

- Faculty numbers by department
- Teaching responsibilities by department
- Faculty scholarly productivity
- Major medical school faculty committees

A. Number, Qualifications, and Function
(See Appendix for tables of faculty numbers by department)

There has been steady growth in the number of faculty in both clinical and basic science departments and full-time and part-time positions since academic year 2003-2004. Between the academic years of 2003-2004 and 2010-2011, the number of full-time faculty in the basic sciences has grown from 185 to 258; full-time faculty in the clinical sciences has grown from 529 to 1,165. This growth may be attributed in part to the establishment of five new academic departments (Cancer Biology, Neurobiology, Quantitative Health Sciences, Ophthalmology, and Radiation Oncology) since AY 2003-2004. Two mechanisms were implemented in spring 2011 to facilitate the tracking of faculty positions--a position management system overseen by the office of faculty affairs and department of human resources and a faculty recruitment process committee to facilitate new faculty recruitments. The distribution of full-time faculty in both the basic science and clinical departments across faculty ranks is appropriate; as would be expected, the newer departments have relatively fewer faculty in the associate and full professor ranks (see Appendix for ranks of full-time faculty in both basic and clinical departments). In the most recent reporting period ending June 30, 2011, there were 243 faculty in the tenure track, including 96 faculty in their tenure probationary period and 147 faculty who hold tenure. In the same reporting period there were 1,874 faculty on the non-tenure track, 566 faculty on the instructor track, and 16 on the lecturer track. Additionally, there were 180 voluntary faculty on the affiliate track.

The number, composition, and qualifications of faculty in the basic and clinical sciences are appropriate for the missions of the medical school. Clinical faculty may teach in the GSBS as well as the school of medicine; however, those who teach in the GSBS curriculum must also have a GSBS faculty appointment. Faculty in basic science departments teach primarily in graduate student courses. Faculty numbers are adequate to support their responsibilities in both the graduate student and medical student curricula (see Appendix for teaching responsibilities by department); the need to hire 'part-time' faculty to compensate for unexpected faculty shortfalls is reported to be rare. While the medical school's faculty and academic departments have experienced increasing productivity demands for both research and clinical service in recent years, the school monitors the impact of these requirements on the educational mission. In the 2011 AAMC GQ, respondents agreed or strongly agreed that faculty observed them performing histories and physicals at rates higher than national rates across all disciplines. For example, 92% (76% nationally) and 92% (80% nationally), respectively, of respondents agreed or strongly agreed that they had been observed by faculty during their pediatrics clerkships taking a history and performing a physical exam. At the level of individual courses and clerkships, end of course evaluations specifically track student satisfaction with availability of course faculty, their helpfulness and professionalism. Student satisfaction ratings (agree, strongly agree) in these areas across all required courses and clerkships are strong and with rare exceptions remain over the 90%. End of year student surveys administered at the close of years 1, 2, and 3, also include measures of faculty availability to students for both academic and mentoring needs. In academic year 2008-2009, student satisfaction ratings (expected above expected) exceeded 90% in all three cohorts. Metrics designed to measure the educational effort of faculty were approved in June 2010 and will be used by the dean's office to inform the allocation of institutional funds to departments and assure optimal alignment of educational effort with institutional support. The school does not anticipate a decrease in the number of faculty in the future.

At the conclusion of each course and clerkship (and in large courses, for each block) students are required to complete an end of course/clerkship evaluation form, which includes items for rating the "effectiveness" of faculty teaching. A standard set of items is used to rate faculty teaching skills across all courses, clerkships and sites. Each faculty member is identified by name enabling the compilation and reporting of student rating for each faculty member individually. Faculty teaching skills are rated in three

types of teaching settings: small group formats, large group lectures, and clinical teaching/precepting. For small group formats, these items address professionalism, content mastery, availability, and facilitation of group interaction as measures of teaching skills. For large group lecture formats the students rate the effectiveness of the lecturer in helping students learn and understand the material. For clinical teaching and precepting items address professionalism, feedback, direct observation, respect for patients, and effectiveness in developing students' clinical skills in identified areas relevant to each clinical setting. In addition to individual faculty ratings, students also rate the overall effectiveness of the quality of faculty teaching in summary ratings for each course. These ratings specifically identify faculty professionalism, the effectiveness of learning objectives for relevance, "attainability" and clarity; and the effectiveness of assessment tools in measuring student achievement.

Results are shared with the individual faculty members, course directors and department chairs. A new system for gathering student feedback on instructional faculty recently has been implemented to supplement the end-of-course evaluations. The system is designed to collect feedback on individual lecturers by subsets of students immediately following the lecture. Feedback is obtained for faculty who lecture only once; for those who lecture more than once, feedback is collected every five sessions. Survey results are tallied weekly and sent to individual faculty; course co-leaders and the associate dean for undergraduate medical education receive composite reports for their entire faculty weekly; and reports are aggregated bi-annually by department and sent to the chairs of the faculty receiving reviews. In most cases of faculty who receive poor evaluations, the issue is addressed by the course leadership in consultation with department chairs and the associate dean for UME as necessary. Most issues are readily resolved with specific feedback to faculty. Faculty may request or be referred to faculty development to improve their teaching skills. In the unusual circumstances in which faculty are not able to respond appropriately to feedback and faculty development they are excused from teaching responsibilities.

A variety of faculty development resources are available to assist faculty in improving their skills in teaching and assessing medical students. Many of these programs are offered through the office of faculty affairs (OFA) faculty development program and include offerings customized for specific departments and their faculty, and development programs structured to meet the needs of individual faculty. There are offerings in areas central to faculty academic work – teaching, technology, educational research and leadership. During AY 2009-2010, the OFA faculty development program provided 48 different workshops, some multiple times, in the areas of teaching, teaching technology, research and leadership to faculty on the university campus, and multiple one-on-one consultations. The workshops were attended by over 550 faculty representing 23 departments and programs from the medical school, Graduate School of Biomedical Sciences, and Graduate School of Nursing. Two new programs recently have been implemented. The *Junior Faculty Development Program*, designed to meet development needs of junior faculty on all career pathways (clinician-educators, clinician-scientists, and research scientists) consists of two components: a comprehensive curriculum in professional development and a project undertaken by each participant under the guidance of a senior faculty mentor. The OFA *Program to Enhance Teaching Skills,* designed to provide faculty essential teaching skills, is divided into two multiple-sessions series: *Enhancing Teaching and Learning* series and the *Research Advising and Mentoring* series. The OFA, in collaboration with the UMMS simulation center and the office of educational affairs offer a *Teaching with Medical Simulation Faculty Development Certificate*; and a collaboration of the OFA, information services, and the Lamar Soutter Library resulted in the *Teaching with Technology Faculty Development Certificate—Process to Practice*. In addition to formal faculty development programs and sessions, educational experts in the office of undergraduate medical educatio n and office institutional research, evaluation and assessment; standardized patient program, and the simulation center are available to help faculty develop their skills in teaching and assessing student progress.

The OFA sponsors a number of faculty development sessions aimed at enhancing faculty skills in research, research administration, and grantsmanship (some of the session titles include "grant writing for clinical research", "developing a project-based research budget", and "smoother sailing with your IRB submission"). The office of the vice provost for research and OFA co-sponsored a retreat on fostering research mentoring, attended by over 50 faculty. Several other organizational entities (departments, the Center for Clinical and Translational Science, Clinical Research Scholar Program) also offer sessions aimed at enhancing faculty leadership and research skills. The Faculty Mentoring Program supports mentoring for professional and personal development in teaching, research, patient care and leadership.

The faculty across all departments clearly maintain a commitment to scholarly productivity (see Appendix for table on faculty scholarly productivity). The junior faculty development program described above provides mentoring for faculty in the research scientist track, as well as faculty in other tracks. The *Faculty Mentoring Program* supports mentoring for professional and personal development in research and in teaching, patient care, and leadership. The Faculty Mentoring Advisory Group was established in 2009-2010 to inform the agenda of the mentoring program and to establish stronger links with other programs and departments at the institution, including collaboration with the office of clinical and translational research in order to provide increased mentoring for junior clinical faculty. Other programs that promote scholarship include a faculty diversity scholars program, a faculty scholar award, and the dean's challenge awards, among many others. There is a rich array of opportunities for faculty to develop their skills in all aspects of medical school endeavors.

B. Personnel Policies

The office of faculty affairs (OFA), under the direction of the vice provost for faculty affairs oversees the processes of faculty appointment, renewal, promotion, award of tenure, and dismissal. The office is responsible for assuring that faculty policies are disseminated and easily available. All policies are posted on the OFA website and shared with faculty, leadership, and professional staff at standing meetings and at faculty and staff orientations. These policies are clear and comprehensively documented. A copy of the *Academic Personnel Policy* is transmitted by the OFA to the faculty member when the office enters that person into the faculty database; this is accomplished prior to the formal academic appointment in order to ensure that individuals are aware of the policies and procedures related to their faculty status. Also included in this communication are instructions to access the OFA website for related polices, information and dates of upcoming events and workshops sponsored by the office of professional development within the OFA. Each faculty member is hired into one of four academic tracks: tenure-track, non-tenure-track, instructor, and lecturer; and four types of employment tracks: university-salaried, UMMHC-salaried, university-approved foundation (Howard Hughes), and voluntary faculty. Within the non-tenure track, there are three pathways for appointment and promotion: the clinical path, the research path, and the traditional academic path. Survey team discussions with faculty indicated that the faculty are well informed about employment policies and think that policies are clear, easily understandable, and readily accessible on the website; discussions with junior faculty members and with faculty in various appointment tracks confirmed their understanding of requirements for promotion in their individual tracks.

Offer letters provided by department chairs describe the responsibilities of the position, proposed appointment track and rank with pathway included (subject to review and approval by the personnel action committee and executive council), salary, and available benefits; for university-salaried and UMMHC-salaried positions, the offer letter also includes the appointees' responsibilities and required amount of effort in teaching and research. All new faculty members are invited to a formal new faculty orientation program sponsored by the OFA, the goals of which include providing career advancement information and making connections for new faculty with colleagues and opportunities for involvement in institutional programs. Specific topics include an overview of the organizational structure of the

institution, promotion and tenure processes, annual performance review procedures, professional development, and how to get started in research, education and clinical activities at UMMS.

Academic personnel policy requires that faculty members receive an annual performance review. Faculty complete an annual faculty report and evaluation of professional activities form, which documents an individual's contributions over the past year. This is used in the evaluation review by the department chair or his/her designee. The annual review also includes a statement of expected contributions for the upcoming year. The faculty member, designated supervisor, and department chair sign off on the completed forms. With the use of a uniform reporting tool, the annual performance review assures that employed faculty members receive feedback on their progress and overall performance in the research, educational, and service missions of the school. The completed form is transmitted to the OFA and is considered with the annual salary merit review. Personnel policy also requires "mini-tenure review" for the tenure-track faculty during the fifth year of the tenure probationary period and a periodic multi-year review for all tenured faculty members every seven years. Volunteer faculty appointments are reviewed regularly (no less than every two years) by the sponsoring department.

Conflict of interest policies and rules on gifts are in place and mandated by the Commonwealth. These relate to research, private interests of the faculty and staff with academic responsibilities, and commercial support of continuing medical education; annual disclosure is required. UMMS policy also requires the disclosure, review and management of conflicts of interest by other, non-faculty employees who hold certain administrative or management positions. In both cases disclosure is via an electronic system. Disclosure is required annually, as well as whenever a change in a covered individual's outside consulting or other financial relationship occurs. Review of disclosures is carried out by a committee that includes the associate vice provost for research, who also serves as the medical school's research integrity officer.

C. Governance

Shared governance between administration and the faculty is made operational through the four primary governance bodies: executive council, faculty council, educational policy committee (EPC) and graduate medical education council (GMEC) (see Appendix for major medical school faculty committees). The faculty council is the elected faculty governance body of the medical school; members are elected by the faculties of each department. This group is responsible for initiating recommendations regarding academic affairs and matters of interest to the faculty, and serves an advisory role to the chancellor, dean, executive council, and other senior leaders. The chancellor and dean hold ex-officio positions on the faculty council. The dean provides a report at the monthly meetings; all faculty are invited to attend faculty council meetings, which provide another opportunity for the faculty to discuss issues with the dean and senior leadership. Members of the executive council are appointed by the provost and include academic department chairs, faculty council officers, student representatives, deans and others. This body reports to the chancellor; its purview includes the review of faculty council recommendations and approval of academic appointments. The dean is a member and reports at each meeting. This is the major body that assures input from the department chairs to the chancellor and dean.

There are a variety of advisory committees through which the dean obtains input from department heads and faculty leadership. The weekly Chairs Council meetings provide a venue for direct interaction with department chairs, both clinical and basic science as well as senior clinical system leaders and directors of academic programs, centers and institutes. These meetings are chaired by one of the council members and the dean provides a dean's update as a regular agenda item. The Scientific Council provides input to the dean from both the clinical and basic research departments. Clinical chairs also have a major role in governance of the clinical practice group board and raise issues with the dean in that group. The dean also meets monthly with his direct reports and senior leaders through the dean's senior advisors meeting and the schools committee meeting. Included in these meetings are vice provosts, the deans from the

GSN and GSBS, the senior associate dean from the school of medicine, the assistant dean for administration, leadership of the group practice, the vice chancellor for administration and finance, and associate vice chancellor for diversity, as well as the vice provost for faculty affairs and the vice provost for school services.

The committee structure appears to function well, ensuring faculty's active involvement in decision-making for the school. As noted earlier in this report, the educational policy committee (EPC) is the governance body empowered to determine educational policy. Members are appointed by department chairs, with some at-large faculty representatives and student members. The EPC reports to the dean, who has the opportunity to discuss issues regarding the educational program with the members at its monthly meetings. The GMEC reports to the dean and the leadership of UMass Memorial Medical Center, and serves as the governance body for matters concerning graduate medical education. The dean serves as an ex-officio, non-voting member of the committee; his participation in the monthly meetings provides another opportunity for direct interaction with program directors, clinical system leaders and residents. Admissions committee members are appointed by the committee on committees; the admissions committee maintains final authority for the selection of students for admission.

General faculty meetings are held approximately once a year, but may be called at any time by the chancellor, the dean of one of the schools, the chair of the faculty council, the chair of the executive council, or upon petition by any 20 members of the faculty. General faculty meetings are videoconferenced to clinical affiliate sites. Attendance at faculty council meetings is open to all faculty; the secretary of the faculty council is responsible for notifying faculty at least five working days in advance of the meeting time, place and agenda. The office of communications distributes a weekly electronic newsletter that highlights announcements and special events related to the faculty-at-large, and maintains the *UMassMEdNow* portal through which both external and internal audiences can stay in touch with the medical school. Faculty are also kept informed of the issues being considered by the committees through the committee intranet web pages that post meeting agenda and approved meeting minutes.

V. EDUCATIONAL PROGRAM RESOURCES

See Appendix for the following documents:

- Four-year Revenue and Expenditure Summary
- LCME Part IA Annual Financial Questionnaire
- Table of teaching facilities
- Table of faculty offices and research labs
- Summary data and associated tables for each clinical teaching site
- Tables of library and information technology facilities, library holdings, and library/IT staff

A. Finances

MEDICAL SCHOOL REVENUE SOURCES
($ in Millions)

Source	Fiscal year 2011	% of Total Revenues	% of Total Revenues/ All Public Medical Schools (2010)
Total tuition and fees	**$15.1**	**1.1%**	**3.3%**
Medical students	$7.8	0.6%	2.5%
Other students	$7.3	0.5%	0.8%
Total government and parent support	**$45.9**	**3.4%**	**11.2%**
Federal appropriations	$	%	0.6%
Adjusted state and parent support	$45.9	3.4%	10.5%
Local appropriations	$0	0.0%	0.0%
Total grants and contracts	**$269.8**	**19.8%**	**28.1%**
Federal direct	$134.5	9.8%	15.9%
State and local	$26.8	2.0%	1.5%
Private direct	$36.5	2.7%	4.6%
Facilities and administration (indirect)	$72.0	5.3%	5.9%
Practice plans/Other medical services	**$332.8**	**24.4%**	**33.4%**
Total hospital revenues	**$131.5**	**9.6%**	**16.7%**
University-owned	$0	0.0%	7.5%
Department of Veterans Affairs	$0	0.0%	2.0%
Other affiliated hospitals	**$131.5**	**9.6%**	**7.1%**
Total gifts	**$6.1**	**0.4%**	**1.9%**
Endowment income	**$2.0**	**0.1%**	**1.1%**
Other revenues	**$563.4**	**41.2%**	**4.4**
Total revenues	$1,366.6		
Total expenses and transfers	$1,416.4		

The financial statements of UMMS are difficult to interpret from the LCME Annual Questionnaire (see Appendix for revenue and expenditure summary and LCME Part I-B Annual Financial Questionnaire). The school uses its Audited Financial Statements and has a chart reconciling the two statements. There are several key points to understand about the financials presented here:

- All of the financials for the whole campus are considered to be those of the medical school. The university campus is called the UMass Medical School. Aside from the medical school, the only separate entity is a very small graduate school of nursing, which reports to the chancellor for everything except promotion and tenure, which are handled by the dean in his role of provost. There is a graduate school of biomedical sciences that reports to the dean of the medical school and has all its finances incorporated in the medical school. As described below, there are several not-for-profit subsidiary business units which report to the dean and are divisions of the MS. Their financials are incorporated in the MS.
- The practice plan is part of the UMMHC, the overall health system. There is a dean's tax, and the chairs pay a tax to themselves to support education and research in the department, but the overall practice revenue is part of the system as are the expenses. If the practice has a deficit, then it is the responsibility of the system and not the MS.
- The subsidiary business units include the UMass Biologics Laboratory (UMBL), one of the largest FDA-licensed producers of human monoclonal vaccines in the country. It holds numerous patents and contracts and was transferred to the MS in 1998 by the state. Its gross revenue fluctuates relative to licensing and royalty fees but varies between $65 and $110M; net revenue varied from 0 to $25M over the last few years.
- Another subsidiary business is Commonwealth Medicine (CWM) which provides direct services and contracting primarily to the state of MA but it also has contracts with other states and international entities and is continually expanding. It has been an administrative unit since 1995. CWM provides management and direct health care services to the correctional institutions, care coordination to vulnerable state-funded populations, and consulting to other state agencies. These two units generated $563M of revenue ("Other revenues" in revenue table above) in FY2011, of which approximately $25M was net revenue that was used to support faculty recruitment and capital construction. The amount generated every year by these entities varies from $25 to $40M.
- Another subsidiary business unit is the Worcester City Campus Corporation, a real-estate holding company. It holds the campus reserves and unrestricted assets of $197M. These assets are being used in a planned way along with direct operating revenue to fund ongoing capital construction of the new medical education/research building. They are fully under the control of the chancellor and dean for support of the MS.
- This year one unit, the Public Sector Partners, was sold because of a lack of profitability. As a result, the gross revenue of the subsidiary entities is projected to decrease in the next year but an equal expense will decrease, so the net profitability will remain.
- The campus funds capital expenditures with a combination of debt and operating revenue. Over the last four years this spending in each year has totaled $16.6M, $22.0M, $29.3M, and $40.0M.
- According to the FY11 LCME Annual Questionnaire, there is an operating deficit for the MS of $49.8M. But a reconciliation of subtracting the group practice deficit, adding in the revenue from the related organizations not already included, and the revenue spent directly on capital projects, the net revenue over expenses was $12.9M.
- The UMMHC system transfers $131m to the medical school, but this supports many clinical activities. Through a 99-year academic affiliation and support agreement which will be almost impossible to break, there is affixed transfer with yearly negotiated cost-of-living upgrades to support undergraduate medical education, currently $17M per year, plus a percent of the net

combined operating income calculated based on a formula that is supposed to generate approximately 20% of the net combined operating income if UMMHC produces a substantial net operating income, which it has been doing.

Financial stability, managed through a five-year business plan, has been successfully in effect for UMMS since 1998. The long-range financial plan is a rolling; five-year projection updated annually, and is relied upon to aid leadership in balancing changes in revenues and expenditures to assure positive financial performance. The current plan contains projections for each of UMMS's revenue sources and for planned expenditures. Data was presented to show the robustness of the five-year projections relative to their successful predictions in the past and, by inference, their predictive success into the future. The current and anticipated fiscal condition of the school is quite positive with large reserves and the ability to generate their own investment fund through the success of their subsidiary businesses.

One of the noticeable items in the financials is the relatively low amount of tuition and fees, 47th among public schools. The commonwealth keeps the tuition for all state students and limits the medical school to taking only state residents into the MD program. Out-of-state students may enter the MD/PhD program but the tuition is waived. The school may keep its own fees. It is anticipated that the fees will go up another $2,000 for this next year. As the fee increases and since the total enrollment is growing by 25 for each of the next two years, there will be modest growth in this revenue category. For projection purposes, the school has anticipated minimal decreases in the state appropriation of (4.4%) total. In the past three years, there has been a cut in state appropriations of $12,933 from $42,619 to $29,966 (30%). It appears that the state appropriation has stabilized and only minimal changes are anticipated.

Federal and total grant funding has increased dramatically over the last four years, from $216m to $272m (24%). This increase was mostly in federal dollars with state dollars decreasing. For the future much more modest increases were projected 3 to 6%. This may be too optimistic.

Capital spending has used bottom line cash over the last several years as was planned. This spending is planned to remain substantial through 2013 and then disappear. This spending was $13m in 2010, $26m in 2011, and projected 2012 of $36m and 2013 of $29m. The new education/research building will open in December 2012 (see General Facilities) and this will finish the build-out of the space and equipment that the campus sees as essential.

The market value of the medical school's endowment funds was $138m in FY2011, an increase of $16m (13%) over FY2010. The University's audited financial statements indicate that the University's endowment funds were valued at $517.7m in FY2011, up 13% over the prior fiscal year. UMMS is quite dependent on the excess revenue that is generated by the CWM consulting and management business. This extra $25m per year is one of the main things that have fueled the growth in faculty, research and facilities over the last 10 years. During a lengthy discussion of this with the dean and principal business officer, it was clear that the contractual services provided by the school are absolutely essential to the state's correctional institutions and Medicaid programs, among other things. State officials perceive that they get excellent value for the services and that they would need to pay more if they contracted these services outside. There is statutory authority for UMMS to provide these services for the state. The service has been growing as other states and countries recognize the potential for cost savings by contracting for consulting and/or services. The risk that this revenue will diminish appears minimal.

While there appears to be a deficit on the LCME Questionnaire, as described above, all the revenue and expenses available to the school reflect a positive balance. Historically the medical school has used reserves to fund investments in facilities and new faculty. However, the severity of the economic downturn in FY2010 resulted in a need to use $5M in reserves to cover operating costs. Fiscal Year 2010 was the first year since FY2001 that reserves were required to fund operating expenses.

The educational programs appear to be adequately to generously funded. There is a base budget allocation from UMMS on a yearly basis, a calculation based on the departmental academic missions of research and education. The educational model is calculated by considering actual educational activities based on a mission-based management model. In addition to the base allocation, there is an incentive-based allocation, based on the equivalent of approximately 50% of indirect cost earnings on departmental grants and contracts returned to the department. Overall, the financial support model for faculty at UMMS provides adequate and stable support for teaching and research activities. The UMass Memorial health system, including the practice plan, operate as separate entities from the medical school and are not included in the medical school's budgets that are submitted to the president's office. The UMMMG governance and management structure was revised in March of 2011. The new governance structure strengthens the relationship between UMMMG and UMMS by formally adding the dean to the medical group's Board of Directors and appointing the medical group president as a senior associate dean in the medical school. In addition to having a full-time president, the medical group also has an executive director/COO, a CFO, and a vice president for the Community Medical Group. The four medical group executives and the 15 clinical chairs comprise the medical group management team. The president of the medical group reports to the CEO of UMMHC and the medical group Board of Directors, and sits on both the Executive Leadership Group of the Health System and the dean's Senior Advisory Group. The new medical group leadership structure is designed to promote a continuous dialogue between the medical school and medical group leadership teams on administrative and programmatic matters.

UMMHC is a strong system of tertiary/quaternary hospitals in UMMMC and four community hospitals, making it the largest health care provider in Central New England. It is an extremely strong partnership. Since the medical group practice was reorganized in 2011, the physicians have had a stronger leadership role in the system. The system and UMMMC have both taken steps to reduce expenses and remodel to become a streamlined accountable care organization. They have had the whole spectrum of care services but have recently sold their nursing home assets and are considering selling their home health services. They have found that they do better contracting and not trying to manage things that are not part of their core service. It appears they are well positioned to take advantage of future health care funding changes. They have a very strong primary care base throughout central and western Massachusetts, numbering about 1050 providers at 12 affiliated and owned hospitals.

Departmental reserve funds grew by nearly 50% between FY2007 and FY2010. There are no academic departments in financial difficulty. The basic science departments have a total reserve of $14.4M and the clinical departments have $17.9M. While it seems that the clinical departments have less reserves than the basic sciences, the figure reflects only the academic, research, and educational reserves. The clinical reserves are all held within the health system. Although there is a wide range of financial assets when comparing between departments, these track relatively consistently with lesser assets in departments with small academic programs and larger assets held in those departments with large academic programs and high levels of extramural funding. UMMS provides a base allocation for financial coverage for every department's academic mission (teaching and research). Another area of support comes in the form of an incentive-based allocation, based on an amount equal to 50% of indirect cost earnings on departmental grants and contracts. Overall, the financial support model for faculty at UMMS provides adequate and stable support for teaching and research activities of its faculty.

The university system's consolidated financial statements show a 9% increase in net assets for FY2011 compared to FY2010. As of June 30, 2011, the university had outstanding bonds payable of approximately $2.31B, a 26% increase over the prior year, and had sufficient unrestricted net assets ($655M) to pay off only 28% of bonds payable.

The excellent financial performance of the school has allowed a robust investment in new building projects. UMMS capital needs are being addressed through a major new construction effort centered on

the Sherman Center. This $405M investment includes the completion of a 512,000-square-foot academic building, significant expansion of power plant and generation capacity, and a new parking garage. The plan includes the first significant state investment ($90M) in the campus since the original building was erected in the 1970s. This follows the completion of the 258,000-square-foot Ambulatory Care Center. Capital investments in educational facilities in recent years are described in the database. Deferred maintenance is managed by UMMS; funding for deferred maintenance is partially supported by the state and is allocated through the university's central office. The average amount of this funding is $1-3M per year. UMMS and UMass Memorial also jointly fund a shared infrastructure account, currently at $2M per year, to fund deferred maintenance issues that impact shared facilities.

Considering all the resources, UMMS is financially well positioned for the next five years. The current five-year plan calls for the use of operating reserves in fiscal years 2014 and 2015 ($35M), after positive inputs to the bottom line in 2012 and 2013 ($57M), and returns to a positive operating margin in fiscal year 2016 ($8.8M). Most importantly, in each of the next five years, UMMS projects an increase to its net assets as the large investments in capital assets (buildings and equipment) enhance its balance sheet. In the past year, UMMS management has also taken aggressive steps to reduce operating costs by $25M in order to maintain a positive operating margin after the completion of new capital construction projects. Focusing on FY 2014 as a target for re-balancing revenue and expense, senior financial management staff is updating goals and strategies for improving operational efficiency and effectiveness and the use of teams to root out redundant or unproductive processes and expenses.

B. General Facilities

In general, the school has a wide and appropriate variety of educational, research and faculty, student and staff facilities (see Appendix for table of faculty offices and research labs). There has been a clear effort to upgrade facilities on an ongoing basis, including the development of new basic and clinical science laboratories and educational spaces. Over the past three years there has been ongoing construction and renovation to accommodate the increase in class size and changes with the new LInC curriculum. The new Integrated Teaching and Learning Center (*i*TLC) provides 4,500 sq. ft. of flexible space and supports interactive multimedia teaching and learning for an entire class; small groups of 4-8 for interactive sessions; high-definition display of images in small group or full class and computer-based testing for up to 140 students. The room can be used in a variety of configurations including one large space or subdivision into three separate rooms, or a combination of both. The anatomy lab was renovated to accommodate the increase in class size from 114 to 125; it now enables interactive learning with access to images and online curriculum in the lab setting, and individualized computer workstations for each dissection group of five students. Study space also has been increased to accommodate the increased class size. The standardized patient program is located at the Hoagland-Pincus Conference Center on the Worcester Foundation campus in Shrewsbury, approximately two miles from the main campus and offers eight patient exam rooms, two conference areas, and offices for staff. The simulation center is located on the main campus, as is the clinical skills lab, which includes 13 patient exam rooms, office and conference space. Overall, the school has 32 rooms that are used for small group teaching, simulation and clinical skills training for students. There are five large amphitheaters and another six smaller lecture halls for didactic teaching sessions.

A major addition to the physical plant will be the Albert Sherman Center, a large education and research building, which is slated for completion in 2012. The $330M project spans 512,000 square feet of new construction that will include educational space, wet research space, clean rooms, research core space and administrative space. These new facilities are directly connected (through an enclosed second level walkway) to the medical school building. Educational programs located in the ASC will include the Center for Experiential Learning and Simulation (CELS). CELS will co-locate four educational components into a single space including a "multi-function" simulation facility, the Standardized Patients

program, a clinical skills laboratory and continuing education programs. The facility is located on two floors and will span approximately 25,000 sq. ft. The ASC also includes 10,000 sq. ft. dedicated to the five Learning Communities for the school of medicine. These communities will provide a combination of small group, learner centered flexible space, social interaction space and mentoring/faculty space. Additionally there will be communal space including kitchen, office and administrative space on each floor housing Learning Communities. The ASC will include an auditorium that will seat 347, adjacent to which will be a new dining facility that will have seating for 300. Multi-purpose rooms totaling 11,200 sq. ft. include conference and teaching space that will be available to the entire school through general reservation. Key research programs planned for the ASC include the Advanced Therapeutics Cluster (ATC) which is comprised of three integrated research programs The Gene Therapy Center, RNA Therapeutics Institute and the Center for Stem Cell Biology and Regenerative Medicine. The ASC will also include an 8,700 sq. ft. fitness center that will include locker rooms, exercise aerobic room, weight training area and offices.

Research facilities and faculty office space currently are adequate. The opening of the ASC will support anticipated research growth.

Security systems are appropriate. The medical school department of public safety has 22 full-time officers. The medical school buildings and university campus hospital buildings, along with the campus parking facilities have key card and video-based access control systems. Upon request, police officers will provide escorts to employees and students to their vehicles after dark; students are encouraged to use this service.

Students are satisfied with current educational facilities. Respondents to the independent student analysis were asked to indicate their levels of satisfaction with several of the educational facilities; their responses are indicated below:

	% Satisfied or Very Satisfied
Lecture halls	91%
Small group discussion conference rooms	85%
Integrated Teaching Learning Center (iTLC)	85%
Simulation Center and Clinical Skills Lab	60% (31% unsure)

Respondents to the independent student analysis also indicated that they feel safe on the university campus at night, with 95% of respondents agreeing or strongly agreeing with this statement.

B. Clinical Teaching Facilities
(See Appendix for summary data and tables of clinical teaching sites)

The clinical training of UMMS medical students is supported by facilities that provide ample inpatient and outpatient resources for required clerkships, electives and other clinical experiences. The school's clinical partner, UMass Memorial, is the largest health care system in central and western Massachusetts and provides the majority of clinical training at the University and Memorial campuses of UMass Memorial Medical Center (UMMMC). With a combined total of 747 beds, a Level 1 trauma center, neonatal intensive care, transplant services and a children's medical center, UMMMC supports over 60% of student clerkship placements. Beyond UMMMC, a network of educational affiliates, both locally and state-wide, accommodates UMMS students in a variety of rotations, with three major affiliates that include Saint Vincent Hospital in Worcester, Berkshire Medical Center in Pittsfield (2 hours from Worcester) and Milford Regional Medical Center (30 minutes from Worcester). Each of these three sites has a UMMS associate dean for medical education, employed by the site and appointed by the dean. The

largest number of UMMS student placements outside of UMMMC is at Saint Vincent Hospital, a full service acute care hospital serving inpatient rotations in medicine, neurology, surgery and obstetrics & gynecology. Saint Vincent student teaching is supported by the Saint Vincent-sponsored medicine residency program, as well as the Beth Israel Deaconess-sponsored surgery program, whose residents rotate to Saint Vincent. Berkshire Medical Center provides dedicated student housing for UMMS students, as do three other sites more than an hour's driving distance from the medical school (Baystate Medical Center in Springfield, St. Elizabeth's Medical Center in Boston and Holyoke Medical Center).

Four new hospital affiliations have been entered into in response to class expansion, providing the additional capacity sufficient to meet current and projected future needs.

The inpatient facilities that accommodate two or more clerkships are itemized below; information on all inpatient facilities is included in the Appendix:

- UMass Memorial Medical Center, University Campus has 391 beds; 23,543 annual admissions; and 376,508 outpatient visits per year.
- UMass Memorial Medical Center, Memorial Campus has 356 beds; 22,299 annual admissions; and 154,152 outpatient visits per year.
- Berkshire Medical Center has 302 beds; 12,071 annual admissions; and 138,982 outpatient visits per year.
- Milford Regional Medical Center has 136 beds; 8,463 annual admissions; and 34,539 outpatient visits per year.
- St. Vincent Hospital has 321 beds; 17,559 annual admissions; and 232,678 outpatient visits per year.
- St. Elizabeth's Medical Center has 272 beds; 14,232 annual admissions; and 95,103 outpatient visits per year.

All sites have adequate clinical resources for student education specific to the clerkships offered at that site. Virtually all sites offer all necessary educational resources including libraries, lecture/conference rooms, study areas, computers, call rooms, shower/changing area, and lockers for secure storage. Students have access to the internet as well as the school's intranet and its associated educational offerings. The school administers a survey to students to assess the major teaching affiliates that offer multiple clerkships. Data from the *Clerkship Cross-Site Comparisons Report* indicates that students are satisfied with these facilities. To the statement, "This site provided adequate facilities for learning", the percent of students responding "agree or strongly agree" concerning each clerkship at that site is listed below:

- UMass Memorial Medical Center, University Campus: Four clerkships at 100%; one at 96%; one at 95%; and one at 94%
- UMass Memorial Medical Center, Memorial Campus: Two at 100%; one at 98%; two at 97% and one at 85%
- Berkshire Medical Center: Two at 100%; one at 94%; one at 93% and one at 75%
- Milford Regional Medical Center: Three at 100%; one at 94% and one at 86%
- St. Elizabeth's Medical Center: One at 100% and one at 83%

- St. Vincent Hospital: Three at 100%; one at 97% and one at 86%

Student evaluation data from all sites is extremely positive and affirms that educational resources, supervision, patient encounters and student amenities fully support the requirements of the curriculum and the delivery of high quality educational experiences. While not all teaching sites have accredited residency programs, student evaluations and performance outcomes support the consistency of educational experiences across the educational affiliates.

Affiliation agreements are in place at all sites and up to date. However, wording contained in the affiliation agreements at all sites with the exception of the UMass Memorial Medical Center indicate that the clerkship director or site coordinator at the site is appointed by and reports solely to the president of the affiliate. This wording is inconsistent with the accreditation standard regarding the primacy of the medical school over academic affairs and the education and assessment of medical students in that setting.

Multiple systems are in place to assure timely communications across sites; collaboration with affiliate leaders and associate deans; regular on-site visits by UMMS representatives; as well as an annual on-campus affiliates meeting which promotes cross-site interaction.

D. Information Resources and Library Services

The Lamar Souter Library located on the UMMS campus serves the needs of the students across all three schools of UMMS, its faculty, staff, and residents, and also serves as the library for UMMMC. As the only public medical library in the state and one of eight regional resource libraries affiliated with the National Library of Medicine, the library also provides support to the diverse educational affiliates of the medical school and the broader community of central Massachusetts (see Appendix for library and information technology facilities, library holdings, and library/IT staff).

It has a full range of library resources. The journal collection has migrated from print to electronic format. Input from faculty ensures adequate resources for supporting research and student learning. The library has a use agreement with the Boston Library Consortium (17 local libraries, 28 million volumes) to provide access to member library collections. The print (202,000 volumes) and non-print collections (5,200 e-journals, 900 e-books, and 400 databases) meet the needs of faculty, medical students, and graduate students. The independent student analysis indicates that 90% of students are satisfied with the availability of online journals and other proprietary resources. In the 2011 AAMC GQ, 99% of respondents (86% nationally) were satisfied or very satisfied with the library.

The library is open and staffed 359 days per year, with extended hours during exam periods. In response to student feedback, additional extended hours during finals and midterm weeks will be provided beginning in 2011.

All students, residents and faculty, including community-based volunteer faculty, can access library resources from off-site locations via a proxy service. The library's reference staff provides onsite and offsite training on the use of the library's resources for all UMMS faculty at all locations.

The library and its staff are actively engaged in the school of medicine educational program, with library representatives present at EPC meetings and serving in LInC planning and curriculum committees. In the required curriculum the library provides an orientation to all first year students and residents. Librarians participate in a wide variety of courses and clerkships, attend chart rounds and morning report at multiple clinical sites, and are affiliated with each learning community house.

In response to increasing class size, the library repurposed 6,000 square-feet of its space to provide an additional 100 seats along with nine private group study rooms. In addition to group study areas, the library offers 112 individual study carrels located on the second and third floors of the library, which are designated as the quiet study areas. The independent study analysis indicates that 84% of students are satisfied with the study space.

UMMS has a computer requirement for all students and a PDA requirement for students in the clinical years. The faculty and staff of Academic Computing Services work closely with the faculty, the associate dean for UME and the course leaders to provide educational technologies and assure successful implementation and use by students and faculty. Technologies include digital lecture capture, audience response systems, virtual microscopy, synchronous meeting tools, exam authoring, exam lockdown software, and wireless small group collaboration software. There are 155 online courses. E*Value is being implemented, to replace the curriculum database and provide an automated system for student course evaluations and performance assessment of students. Electronic educational resources are available from remote locations.

In the independent study analysis, 76% of respondents were satisfied or very satisfied with library technology services. Seventy-seven percent of respondents rated the learning management system (Blackboard Vista interface) at very or extremely useful; 62% rated technology support as very or extremely useful.

The technology staff provides support for the education mission of the school. Representatives from academic computing are active participants in curriculum committees, LInC course planning and the EPC. Faculty development opportunities are offered by academic computing staff in partnership with faculty affairs, OUME and the library.

APPENDIX

UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL

LCME: Survey Visit for Full Accreditation Surveys

Ad Hoc Survey Team Representing the LCME

March 4-7, 2012

Team Chair
Barbara F. Atkinson, MD
Executive Dean, UKSOM
Executive Vice Chancellor, UKMC
University of Kansas School of Medicine
Department: Pathology

Team Member
Steven Block, MD
Senior Associate Dean, Professor of Pediatrics
Wake Forest University School of Medicine
Department: Neonatology

Team Member
Thomas E. Norris, MD
Chair, Department of Family Medicine
University of Washington School of Medicine
Department: Family Medicine

Team Secretary
Nancy A. Koff, PhD
LCME Field Secretary
Senior Associate Dean for Evaluation
University of Arizona College of Medicine
Department: Academic Administration/Educational Policy

Team Member
Jeffrey L. Susman, MD
Dean, College of Medicine
Northeastern Ohio Medical University College of Medicine
Department: Family Medicine

Student Team Member
Emily Whitgob, class of 2012
UC Davis, School of Medicine

Accreditation Survey visit to the University of Massachusetts Medical School by ad hoc team representing the Liaison Committee on Medical Education, March 4-7, 2012

SUNDAY, MARCH 4: DAY 1 – ARRIVAL AND EVENING MEETING

Team arrives in afternoon; Beechwood Hotel check in (Koff, Norris arrive on Saturday)

TBD	**LCME survey team caucus**
6:00-7:30 p.m.	**Dean's perspective: Accomplishments, goals and challenges**

- Strengths and weaknesses of the school; changes since last LCME survey; if appropriate, major current issues
- School's goals and directions; principal findings of institutional self-study
- Organizational relationships of college with university and teaching hospital(s); organization of dean's staff; interaction of dean with college's governance organization, councils, committees and academic departments
- Financial status and projections
- Research programs and funding
- The status of facilities for education, research and patient care
- Faculty development: appointment tracks, promotion and tenure
- Diversity Initiatives

Terence R. Flotte, MD
Dean, Provost and Executive Deputy Chancellor
Professor of Pediatrics

7:30 p.m. **Dinner with caucus team (Ceres Bistro at Beechwood Hotel)—reservation under the name 'Ashton Gunn'**

~END of DAY 1~

MONDAY, MARCH 5: DAY 2 - EDUCATIONAL PROGRAM

6:30-7:15 a.m. **Breakfast on your own at Beechwood Hotel**

7:30 a.m. **Team collected from Back entrance of Beechwood Hotel**

8:30-10:30 a.m. **Educational program design, implementation, management and evaluation**

- Educational objectives, outcome measures and how they are integrated throughout the curriculum
- General design of the curriculum; coverage of disciplines and subject areas required by accreditation standards
- Appropriateness of instructional methods and student evaluation strategies for the achievement of the school's objectives
- Resident preparation for teaching and evaluating students
- System for implementation and management of the curriculum; adequacy of resources and authority for the educational program and its management
- Methods for evaluating the effectiveness of the educational program and evidence of success in achieving objectives; comparability of educational experiences at all sites
- Description of courses/year and whole curriculum

1. Michele Pugnaire, MD
   Senior Associate Dean for Educational Affairs
2. Melissa Fischer, MD, MEd
   Associate Dean for Undergraduate Medical Education
3. Mai-Lan Rogoff, MD
   Associate Dean for Student Affairs
4. Tom Smith, MD
   Chair, Foundations of Medicine Year 2 Curriculum Committee
   Course Co-Leader, Organ System Diseases
5. Robert Baldor, MD
   Co-Chair, Educational Policy Committee
6. Julie Jonassen, PhD
   Co-Chair, Educational Policy Committee
7. Deborah Field, MD
   Chair, Clinical Years Committee
   Clerkship Director, Psychiatry
8. Susan Gagliardi, PhD
   Chair, Foundations of Medicine I Curriculum Committee
   Course Co-leader, The Brain: Nervous System and Behavior
9. Mary Zanetti, EdD
   Senior Director, Division of Institutional Research, Evaluation & Assessment

10:30-10:45 a.m. Break

MONDAY, MARCH 5: DAY 2 - EDUCATIONAL PROGRAM

10:45-11:15 a.m. **Library and information services**

Role of the library and information services in the educational program; adequacy of resources and services for the achievement of institutional goals

1. Lyn Riza, MS
   Associate Chief Information Officer, Academic Computing
2. Elaine Martin, DA
   Director of Library Services
3. Robert Peterson
   Chief Information Officer, UMMS

MONDAY, MARCH 5: DAY 2 - EDUCATIONAL PROGRAM

11:15-12:00 p.m.

Tour of Educational and support facilities

Team A: Barbara Atkinson, Thomas Norris and Jeffrey Susman

Team B: Nancy Koff, Emily Whitgob, Steven Block

1. Team A Tour Guide: Kathleen Goble, MS2
   Student Body Committee Co-President, Independent Student Analysis, core writing team member
2. Team B Tour Guide: Michael Richardson, MS2
   Independent Student Analysis, core writing team member

Tours start at Chancellor's suite waiting area branch out to showcase full spectrum of educational support facilities:

Team A: Educational Teaching spaces

- Simulation Center (1st Floor)
- Student Health Clinic (Benedict Building)
- Clinical skills Center and Center for Academic Achievement (7th Floor)
- Clip-on Classroom (S4-402)
- Amp II (4th Floor)
- Student Independent Study Room (4th floor Blackstone)
- Goff Learning Center (2nd Floor): S2-307 A/B
- Integrated Teaching and Learning Center (iTLC) (2nd Floor)

Team B: Student Life, Services and Programs

- Simulation Center (1st Floor)
- Student Lounge (1st Floor)
- Fitness center/lockers student wing (1st Floor)
- Library (1st Floor)
- Student Counseling Center (1st Floor)
- Financial Aid/Registrar suite (1st Floor)
- UMMMC fitness center (level A)
- Anatomy Lab (level A)
- Integrated Teaching and Learning Center (iTLC) (2nd Floor)

Tours end at S2-352 for lunch with survey team and 1st/2nd year students

MONDAY, MARCH 5: DAY 2 - EDUCATIONAL PROGRAM

12:00-1:15 p.m. Lunch with pre-clinical students

Discussion of student life; personal, academic, career and financial counseling, financial aid; health services; infection control education and counseling; the learning environment student mistreatment policies; student perspective of the curriculum, teaching, and assessment/grading; students' role and perceived value of student input in institutional planning, implementation, and evaluation

1. Dien Le, MS1
2. Rachel Ackerman, MS1
3. Rebecca Lumsden, MS1
4. Matt Sloan, MS1
5. Eric Evan-Browning, MS1
6. Kathleen Goble, MS2
   Student Body Committee Co-President, Independent Student Analysis, core writing team member
7. Sara-Grace Reynolds, MS2
   Student Body Committee Co-President
8. Alex Hart, MS2
   Independent Student Analysis, committee member
9. Michael Richardson, MS2
   Independent Student Analysis, core writing team member
10. Adam Chin, MS2
    Self-study task force subcommittee Educational Resources, Clinical Teaching Facilities
11. Juan Ramirez, MS2
    Self-study task force subcommittee Medical Students, Admissions
12. Mary Cheffers, MS2
    Self-study task Force subcommittee Education Program, Curriculum Management
13. Caitlin Fogarty, MD/PhD candidate
    Self-study task force subcommittee Co-Leader, Clinical Translational Science in the Education Program
14. Jennifer Hanson, MS2

1:15-1:30 p.m. Break

MONDAY, MARCH 5: DAY 2 - EDUCATIONAL PROGRAM

1:30 p.m. – 2:30 p.m. **Required Courses FOM1 (Team A) Golding**
Required Courses FOM1 (Team B) iTLC-C

Discussion of notable achievements and ongoing challenges in individual courses and clerkships; contributions of individual course and clerkships in achieving institutional educational objectives; adequacy of resources for education, including availability of faculty to participate in teaching; preparation of residents and graduate students for their roles in medical student teaching and evaluation

Team A: Barbara Atkinson, Thomas Norris and Jeffrey Susman

1. William Royer, PhD
   Course Co-Leader, Building Working Cells and Tissues
   Department of Biochemistry & Molecular Pharmacology
2. Beverly Hay, MD
   Course Co-Leader, Principles of Human Genetics
   Department of Pediatrics
3. Mark Dershwitz, MD, PhD
   Course Co-Leader, Principles of Pharmacology
   Department of Anesthesiology
4. Charles Sagerstrom, PhD
   Course Co-Leader, Principles of Pharmacology
   Department of Biochemistry & Molecular Pharmacology
5. Rick Pieters, MD
   Course Co-Leader, Cancer Concepts
   Department of Radiation Oncology

Team B: Nancy Koff, Emily Whitgob, Steven Block

1. Julie Jonassen, PhD
   Course Co-Leader, Development Structure and Function
   Department of Microbiology and Physiological Systems
2. John Cooke, PhD
   Course Co-Leader, Development Structure and Function
   Department of Cell Biology
3. Jennifer Daly, MD
   Course Co-Leader, Infections
   Department of Medicine
4. David Hatem, MD
   Course Co-Leader, Doctoring and Clinical Skills I
   Department of Medicine
5. Christina Hernon, MD
   Course Co-Leader, Integrated Case Exercises
   Department of Emergency Medicine
6. Leslie Berg, PhD
   Course Co-Leader, Host Defense and Blood
   Department of Pathology

MONDAY, MARCH 5: DAY 2 - EDUCATIONAL PROGRAM

2:30 p.m. – 3:30 p.m. **Required Courses FOM2 (Team A) Golding**
Required Courses FOM2 (Team B) iTLC-C

Discussion of notable achievements and ongoing challenges in individual courses and clerkships; contributions of individual course and clerkships in achieving institutional educational objectives; adequacy of resources for education, including availability of faculty to participate in teaching; preparation of residents and graduate students for their roles in medical student teaching and evaluation

Team A: Barbara Atkinson, Thomas Norris and Jeffrey Susman

1. David Hatem, MD
   Course Co-Leader, Doctoring and Clinical Skills II
   Department of Medicine
2. Michael Kneeland, MD, MPH
   Leader of Epidemiology & Biostatistics in the Doctoring and Clinical Skills II Course
   Department of Family Medicine & Community Health
3. Jeroan Allison, MD, MS
   Course Co-Leader, Determinants of Health
   Department of Quantitative Health Sciences
4. Susan Gagliardi, PhD
   Course Co-Leader, The Brain: Nervous System and Behavior
   Department of Cell Biology
5. Neeta Garg, MD
   Course Co-Leader, The Brain: Nervous System & Behavior
   Department of Neurology
6. Tom Smith, MD
   Course Co-Leader, The Brain: Nervous System and Behavior
   Department of Pathology

Team B: Nancy Koff, Emily Whitgob, Steven Block

7. Sonia Chimienti, MD
   Course Co-Leader, Organ System Diseases
   Department of Medicine
8. Vijay Vanguri, MD
   Course Co-Leader, Organ System Diseases
   Department of Pathology
9. Mark Madison, MD
   Course Co-Leader, Organ System Diseases
   Department of Medicine
10. Mike Fahey, MD
    Course Co-Leader, Integrated Case Exercises II
    Department of Pediatrics
11. Michelle Conroy, MD
    Course Co-Leader, Patients
    Department of Medicine

3:30-3:45 p.m. (break)

3:45–4:45 p.m. **Major Required Clerkships**

Discussion of notable achievements and ongoing challenges in individual courses and clerkships; contributions of individual courses and clerkship in achieving institutional educational objectives; adequacy of resources for education, including availability of faculty to participate in teaching; preparation of residents and graduate students for their role in medical student teaching/assessment

1. Mary Hawthorne, MD
   Medicine Clerkship Director
2. Lan Qin, MD
   Neurology Clerkship Director
3. Mitchell Cahan, MD
   Surgery Clerkship Director
4. Dawn Tasillo, MD
   Obstetrics and Gynecology Clerkship Director
5. Deborah Field, MD
   Psychiatry Clerkship Director
6. Frank Domino, MD
   Family Medicine & Community Health Clerkship Director, through July 2011
7. Erin McMaster, MD
   Pediatrics Clerkship Director
8. Julie Jonassen, PhD
   Interclerkship Director

~END of DAY 2~

5:15 p.m. **Team departs Remillard Family Pavilion with transportation to Beechwood Hotel**

TUESDAY, MARCH 6: DAY 3 – STUDENTS, EDUCATIONAL RESOURCES FINANCES AND DEPARTMENTS

6:30-7:15 a.m.	**Breakfast on your own at Beechwood Hotel**
7:30 a.m.	**Team is collected from hotel**
3:30-9:15 a.m.	

Team A: Academic Counseling and Learning Environment (Golding)
Barbara Atkinson, Thomas Norris and Jeffrey Susman

Discussion of effectiveness of academic counseling, policies and procedures for student advancement and graduation and for disciplinary actions; review standards of conduct and policies for addressing student mistreatment (including student promotion and dismissal policies and due process issues).

1. Mai-Lan Rogoff, MD
   Associate Dean for Student Affairs
2. Lorrie Gehlbach, PhD
   Director of Academic Enrichment Program
3. Mark Quirk, EdD
   Assistant Dean for Academic Achievement
4. Sarah McGee, MD, MPH
   Chair of Clinical Science Academic Evaluation Board
   Director End of Third Year Assessment
5. William Royer, PhD
   Chair, Basic Science Academic Evaluation Board
6. Deborah Plummer, PhD
   Vice Chancellor, Human Resources, Diversity and Inclusion

Team B: Career Counseling; Electives; Fourth-year courses (iTLC-C)
Nancy Koff, Emily Whitgob, Steven Block

Career guidance strategies; advanced and subspecialty clerkships and electives for rounding out clinical education of medical students.

1. Michael Ennis, MD
   Assistant Dean, Student Advising
   Co-Director of Learning Communities Program
2. Melissa Fischer, MD, MEd
   Associate Dean for Undergraduate Medical Education
3. Majid Yazdani, MD
   Director of Subinternships
4. William Tosches, MD
   Chair, Fourth Year Working Group

TUESDAY, MARCH 6: DAY 3 – STUDENTS, EDUCATIONAL RESOURCES FINANCES AND DEPARTMENTS

9:15-10:15 a.m.

Team A: Admissions, financial aid & debt management counseling services (Golding)
Barbara Atkinson, Thomas Norris and Jeffrey Susman

Discussion of admissions process, selection criteria, quality of applicant pool and matriculants; policies and goals for diversity; financial aid services and debt counseling

1. John Paraskos, MD
   Associate Dean for Admissions
2. Betsy Groves
   Director of Financial Aid
3. Deborah Harmon Hines, PhD
   Vice Provost for School Services
4. Deborah Plummer, PhD
   Vice Chancellor, Human Resources, Diversity and Inclusion

Team B: Personal counseling; health services (iTLC-C)
Nancy Koff, Emily Whitgob, Steven Block

Review of student health services, health and disability insurance, personal counseling and mental health services; immunizations and policies regarding exposure to infectious diseases and environmental hazards

1. Mai-Lan Rogoff, MD
   Associate Dean for Student Affairs
2. Ruthann Rizzi, MD
   Director of Student Counseling Services
3. Phillip Fournier, MD
   Medical Director, Student Health Services
4. Michael Ennis, MD
   Assistant Dean, Student Advising;
   Co-Director of Learning Communities Program

10:15-10:30 a.m. Break

TUESDAY, MARCH 6: DAY 3 – STUDENTS, EDUCATIONAL RESOURCES FINANCES AND DEPARTMENTS

10:30-11:00 a.m. **Special programs, MD/PhD and other joint degree programs; research for medical students or educational innovations**

Discussion of special educational opportunities; MD/PhD and other joint degrees, research opportunities

. Gyongyi Szabo, MD, PhD
Associate Dean for Clinical and Translational Sciences

. Tony Carruthers, PhD
Dean, Graduate School of Biomedical Sciences

. Deborah DeMarco, MD
Senior Associate Dean for Clinical Affairs
Associate Dean for Graduate Medical Education

. Kendall Knight, PhD
Associate Dean of Graduate School of Biomedical Sciences

. Patricia Franklin, MD, MBA, MPH
Director, Clinical Translational Research Pathway

. Melissa Fischer, MD, MEd
Associate Dean for Undergraduate Medical Education

. Katherine Luzuriaga, MD
Associate Provost for Global Health

. Michael Kneeland, MD, MPH
Associate Dean for Allied Health and Interprofessional Education
Interim Associate Dean, Continuing Medical Education

TUESDAY, MARCH 6: DAY 3 – STUDENTS, EDUCATIONAL RESOURCES FINANCES AND DEPARTMENTS

11:00-11:45 a.m. **Hospital tour (led by student guides)**

Inspection of clinical, educational and student support facilities

Survey Team: Barbara Atkinson, Thomas Norris and Jeffrey Susman, Nancy Koff, Emily Whitgob and Steven Block

1. Noah Rosenberg, MS4
   Self-study task force subcommittee Co-leader, Education Program, Curriculum Management
2. David Wang, MS3
   Independent Student Analysis Committee, core writing team member
   AY1011 Student Body Committee Co-President

Tours start at Chancellor's suite waiting area branch out to showcase full spectrum of clinical education facilities:

Clinical Teaching Facilities

- Internal Medicine Morning Report Classroom (S6-806)
- Walk down 6th floor hospital hallway (H6-551)
- Take Elevator C to 3rd floor and view a typical ward and nurse station
- Walk into Lakeside and through the Stroke Unit
- Take elevator to L1 and go through the Remillard to the Surgery Clinic
- Take Elevator B to level A and go to the On Call Center
- Take Elevator C to the 1st floor
- Enter the Chancellor's suite and proceed to S2-352 for lunch with junior and senior students

TUESDAY, MARCH 6: DAY 3 – STUDENTS, EDUCATIONAL RESOURCES FINANCES AND DEPARTMENTS

11:45-1:15 p.m. **Lunch with junior and senior students**

Discussion of student life, personal, academic, career and financial counseling, financial aid; health services; infection control education and counseling; student perspective of curriculum, teaching and assessment/grading; students' role and perceived value of student input in institutional planning, implementation and evaluation

1. Noah Rosenberg, MS4
   Self-study task force subcommittee Co-leader, Education Program, Curriculum Management
2. Joel Bradley, MS4
   Self-study task force subcommittee member, Education Program, Educational Objectives
3. Mitchell Li, MS3
   Self-study task force subcommittee co-leader, Medical Students, Student Services
4. Stuart Murray, MS3
   Independent Student Analysis Committee, core writing team member
   AY1011 Student Body Committee Co-President
5. David Wang, MS3
   Independent Student Analysis Committee, core writing team member
   AY1011 Student Body Committee Co-President
6. Judy Wilber, MS3
   Independent Student Analysis Committee, core writing team member
7. Sophia Paraschos, MS3
   Self-study task force subcommittee member, Institutional Setting, Academic Environment
8. Alyssa Finn, MS3
9. Vincent Mitchell, III, MS4
10. Anna Buabbud, MS4
11. Kara Keating-Bench, MS4
12. Yaphet Tilahun, MS4
13. Keith Romano, MS3, MD/PhD candidate
14. Elizabeth Yu, MS3, MD/PhD candidate

1:15-1:30 p.m. Break

TUESDAY, MARCH 6: DAY 3 – STUDENTS, EDUCATIONAL RESOURCES FINANCES AND DEPARTMENTS

1:30-2:15 p.m. **Finances**

Discussion of the adequacy of finances for the achievement of the school's missions; recent financial trends and projections for various revenue sources; financial health of and market conditions for the clinical enterprise

1. Terence R. Flotte, MD
   Dean, Provost and Executive Deputy Chancellor
2. Robert Jenal
   Vice Chancellor of Administration and Finance
3. Jennifer Daley, MD
   Executive Vice President and Chief Operating Officer, UMass Memorial Medical Center
4. Eric Dickson, MD
   President and Senior Associate Dean for UMass Memorial Medical Group
5. Nancy Vasil
   Associate Vice Chancellor of Administration & Finance
6. Joyce Murphy
   Vice Chancellor and Chief Operating Officer for Commonwealth Medicine
7. Todd Keating
   Senior Vice President and Chief Financial Officer
   UMass Memorial Health Care
8. Michele Streeter, CPA
   Executive Director, UMass Memorial Medical Group

TUESDAY, MARCH 6: DAY 3 – STUDENTS, EDUCATIONAL RESOURCES FINANCES AND DEPARTMENTS

2:15-3:15 p.m. **Resources for clinical education**

Meeting with the leadership of major clinical education facilities, focused on the adequacy of resources for medical student education (e.g., physical facilities, patient numbers and variety, regulatory or compliance constraints, learning environment, etc.)

1. Deborah DeMarco, MD
   Senior Associate Dean for Clinical Affairs
   Associate Dean for Graduate Medical Education
2. Michael Kneeland, MD, MPH
   Associate Dean for Allied Health and Interprofessional Education
   Interim Associate Dean, Continuing Medical Education
3. Octavio Diaz, MD, MPH
   Associate Dean of Medical Education, Saint Vincent Hospital
4. Erik Wexler
   President and CEO, Saint Vincent Hospital
5. Martin Broder, MD
   Associate Dean of Medical Education, Berkshire Medical Center
6. David Phelps
   CEO, Berkshire Health Systems
7. William Muller, MD
   Associate Dean of Medical Education, Milford Regional Medical Center
8. Francis M. Saba
   CEO, Milford Regional Medical Center
9. Jennifer Daley, MD
   Executive Vice President and Chief Operating Officer, UMass Memorial Medical Center
10. Alice Shakman
    Vice President of Operations
    UMass Memorial Medical Center

3:15-3:30 p.m. Break

TUESDAY, MARCH 6: DAY 3 – STUDENTS, EDUCATIONAL RESOURCES FINANCES AND DEPARTMENTS

3:30–4:15 p.m. **Basic science departments**

Successes and ongoing challenges in administrative functioning of departments; adequacy of resources for all missions (research, scholarship, teaching); departmental support for faculty and graduate programs, balancing of research and other academic demands on faculty

1. Allan Jacobson, PhD
   Chair, Department of Microbiology and Physiological Systems
2. Catarina Kiefe, MD, PhD
   Chair, Department of Quantitative Health Sciences
3. C. Robert Matthews, PhD
   Chair, Department of Biochemistry & Molecular Pharmacology
4. Gary Stein, PhD
   Chair, Department of Cell Biology

TUESDAY, MARCH 6: DAY 3 – STUDENTS, EDUCATIONAL RESOURCES FINANCES AND DEPARTMENTS

4:15-5:15 p.m. **Clinical departments**

Successes and ongoing challenges in administrative functioning of departments; adequacy of resources for all missions (research, scholarship, teaching); departmental support for faculty and graduate programs, balancing of research and other academic demands on faculty

- Daniel Lasser, MD, MPH
  Chair, Department of Family Medicine & Community Health
- Robert Finberg, MD
  Chair, Department of Medicine
- Doug Ziedonis, MD, MPH
  Chair, Department of Psychiatry
- Demetrius Litwin, MD, MBA
  Chair, Department of Surgery
- Stephen Heard, MD
  Chair, Department of Anesthesiology
- Greg Volturo, MD
  Chair, Department of Emergency Medicine
- David Ayers, MD
  Chair, Department of Orthopedics
- Julia Johnson, MD
  Chair, Department of Obstetrics and Gynecology
- David Paydarfar, MD
  Vice Chair, Clinical Operations and Research
  Department of Neurology
- Marianne Felice, MD
  Chair, Department of Pediatrics
- Kenneth Rock, MD
  Chair, Department of Pathology

~END of DAY 3~

5:30 p.m. **Team departs Remillard Family Pavilion with transportation to Beechwood Hotel**

Wednesday, March 7: Day 4—Faculty, Academic Environment, Exit Conference

7:00 a.m. team collected from hotel

8:00-9:00 a.m. **Light Breakfast with Junior Faculty**

Discussion of faculty development and mentoring; positioning for promotion and tenure; teaching and assessment skills; perceptions of curriculum and students; understanding of institutional goals; role in faculty governance; faculty life

1. Craig Ceol, PhD
   Assistant Professor, Program in Molecular Medicine
2. Jaime Rivera, PhD
   Assistant Professor, Department of Cell Biology
3. Timothy Gibson, MD
   Assistant Professor, Department of Pediatrics
4. Benjamin Nwosu, MD
   Assistant Professor, Department of Pediatrics, Pediatric Endocrine/Diabetes
5. Brian Akerley, PhD
   Assistant Professor, Microbiology & Physiological Systems
6. Becky Spanagel, MD
   Assistant Professor
   Medicine Clerkship Site-Coordinator
   Saint Vincent Hospital, Department of Medicine, General Internal Medicine
7. Christina Hernon, MD
   Assistant Professor, Department of Emergency Medicine, Division of Medical Toxicology
8. Maria Garcia, MD, MPH
   Assistant Professor, Department of Medicine, Hospital Medicine
9. Francesca Massi, PhD
   Assistant Professor, Biochemistry & Molecular Pharmacology
10. John Harris MD, PhD
    Assistant Professor, Department of Medicine, Dermatology
11. Stephanie Carter-Henry, MD
    Assistant Professor, Department of Family Medicine & Community Health
12. Syed Quadri, MD
    Assistant Professor, Department of Surgery, Thoracic Surgery

Wednesday, March 7: Day 4—Faculty, Academic Environment, Exit Conference

:00-10:00 a.m. **Institutional faculty issues**

)iscussion of faculty appointment, promotion, and tenure policies; faculty development opportunities; ffectiveness of faculty governance; faculty compensation and incentives; opportunities for collegial nteraction among faculty

- Luanne Thorndyke, MD
  Vice Provost of Faculty Affairs
- Robert Milner, PhD
  Associate Vice Provost for Professional Development
- Judy Ockene, PhD, MEd, MA
  Associate Vice Provost for Gender and Equity
- Robert Weinstein, MD
  Department of Medicine, Transfusion Medicine
  Chair, Faculty Council
- Jean King, PhD
  Vice Chair for Research for the Department of Psychiatry
  Fellow, Executive Leadership in Academic Medicine Program for Women (ELAM)
  Director, Psychiatry Career Development & Research Office
- Leslie Shaw, PhD
  Department of Cancer Biology
  Vice Chair, Faculty Council
- Deborah Plummer, PhD
  Vice Chancellor, Human Resources, Diversity and Inclusion
- Robert Baldor, MD
  Department of Family Medicine & Community Health
  Chair, Personnel Action Committee
- Roger Davis, PhD
  Program in Molecular Medicine
  Co-Chair, Tenure Committee

0:00-10:15 a.m. (Break)

Wednesday, March 7: Day 4—Faculty, Academic Environment, Exit Conference

10:15-11:00 a.m. **Graduate program in basic sciences; basic science and clinical research**

Discussion of funding, quality, and review of graduate training programs in basic sciences; levels of scholarly productivity and health of research enterprise

1. John Sullivan, MD
   Vice Provost for Research
2. Michael Czech, PhD
   Chair, Program in Molecular Medicine
3. Tony Carruthers, PhD
   Dean, Graduate School of Biomedical Sciences
4. Gyongyi Szabo, MD, PhD
   Associate Dean for Clinical and Translational Sciences
5. Catarina Kiefe, MD, PhD
   Chair, Department of Quantitative Health Sciences
6. C. Robert Matthews, PhD
   Chair, Department of Biochemistry & Molecular Pharmacology

11:00-1:00 p.m. Team Caucus and Lunch (private session)

1:00-1:30 p.m. Exit Conference with Dean Terence R. Flotte

1:30-2:00 p.m. Exit Conference with University Leadership

1. Michael F. Collins, MD
   Senior Vice President for Health Sciences and Chancellor
2. Terence R. Flotte, MD
   Dean, Provost and Executive Deputy Chancellor

~END of DAY 4~

2:30 p.m. **Team departs Remillard Family Pavilion with transportation to Beechwood Hotel or Boston Logan International Airport**

COMPOSITION OF INSTITUTIONAL SELF-STUDY COMMITTEES

:reditation Oversight Committee and Co-leaders of the Self-study Task Force

rence Flotte, MD*	Dean, Provost and Executive Deputy Chancellor, Task Force Chair
ichele Pugnaire, MD*	Senior Associate Dean for Educational Affairs, LCME Project Director and Self-Study Coordinator
a Beittel*	Assistant Dean for Administration; Chief of Staff
alter Ettinger, MD, MBA*	President, UMass Memorial Medical Center
Keohane*	Vice Chancellor for Communications
hton Gunn*	Project Manager, Office of Educational Affairs
oan Allison, MD	Associate Vice Provost for Health Disparities
bert Baldor, MD	EPC Chair, Director, Community-Based Education
rtin Broder, MD	Associate Dean, Medical Education, Berkshire Medical Center
thony Carruthers, PhD	Dean, Graduate School of Biomedical Sciences
borah DeMarco, MD	Senior Associate Dean, Clinical Affairs
tavio Diaz, MD, MPH	Associate Dean, Medical Education, Saint Vincent Hospital
ic Dickson, MD	Senior Associate Dean and President of UMass Memorial Medical Group
elissa Fischer, MD, MEd*	Associate Dean, Undergraduate Medical Education
itlin Fogarty, MS2, MD/PhD candidate	MD/PhD candidate, 1st Year Student, Graduate School of Biomedical Sciences
san Gagliardi, PhD	Professor of Cell Biology and Neurology
vid Harlan, MD	Director, Diabetes and Endocrinology Research Center
borah Harmon Hines, PhD	Vice Provost, School Services
ristina Hernon, MD	Assistant Professor of Emergency Medicine
bert Jenal*	Vice Chancellor, Administration and Finance
lia Johnson, MD	Chair and Professor of Obstetrics & Gynecology
lie Jonassen, PhD	Professor of Physiology
omas Kramer	3rd Year Student, School of Medicine, c/o 2012
ichael Kneeland, MD, MPH*+	Associate Dean, Allied Health and Interprofessional Education
ne Larkin, MD	Associate Professor of Surgery
niel Lasser, MD, MPH	Chair and Professor of Family Medicine & Community Health
itchell Li	2nd Year Student, School of Medicine, c/o 2013
ine Martin, DA	Director, Library Services
bert Matthews, PhD	Chair and Professor of Biochemistry and Molecular Pharmacology
arath Nath	MD/PhD candidate, 4th Year Student, School of Medicine, c/o 2011
Norman Peters	University of Massachusetts Trustee
borah Plummer, PhD	Associate Vice Chancellor, Diversity and Equal Opportunity
me Rivera, PhD	Assistant Professor of Cell Biology
i-Lan Rogoff, MD+	Associate Dean, Student Affairs
n Riza	Director, Academic Computing
ah Rosenberg	3rd Year Student, School of Medical, c/o 2012
ice Shakman	Vice President, Operations, UMass Memorial Medical Center
becca Spanagel, MD	Assistant Professor of Clinical Medicine, Site Director, Medicine Clerkship
ongyi Szabo, MD, PhD	Associate Dean, Clinical & Translational Sciences Division
wn Tasillo, MD	Assistant Professor of Obstetrics & Gynecology
anne Thorndyke, MD*+	Vice Provost, Faculty Affairs
bert Weinstein, MD	Professor of Medicine, Chair of Faculty Council
ra Weismann	Student, Graduate School of Biomedical Sciences
byn Wing, MD	PGY2, Pediatrics

dicates member of LCME 2012 Accreditation Oversight Committee

dicates LCME 2012 Database Section Leader

Appendix 2: Members of the Self-study Subcommittees

Institutional Setting

IS-A	**Governance and Administration**	
Co-Leaders:	Michael Kneeland, MD	Associate Dean, Allied Health and Interprofessional Education
	R. Norm Peters, JD	UMass Trustee.
Members:	James Healy, JD	Associate General Counsel
	Gregory Volturo, MD	Chair and Professor of Emergency Medicine
	Thoru Pederson, PhD	Associate Vice Provost for Research
	Brendan Chisholm	Chief of Staff, Office of the Chancellor
	John Polanowicz	President and CEO, Marlborough Hospital
	Marcellette Williams, PhD	Senior VP of Academic Affairs, UMass President's Office
IS-B	**Academic Environment**	
Co-Leaders:	Deborah DeMarco, MD	Senior Associate Dean, Clinical Affairs
	Deborah Plummer, PhD	Associate Vice Chancellor for Diversity and Equal Opportunity
Members:	Patricia Franklin, MD	Director, Clinical and Translational Research Pathway
	Yendelela Cuffee	Student, Graduate School of Biomedical Sciences
	Sophia Paraschos, MS2	Student, School of Medicine, Class of 2013
	Allan Jacobson, PhD	Chair and Professor of Molecular Genetics and Microbiology
	Kendall Knight, PhD	Associate Dean, Graduate School of Biomedical Sciences
	William Schwartz, MD	Associate Director of the MD/PhD Program
	Keith Medeiros, MD	UMass Cardiology Fellow

Education Program

ED-A	**Educational Objectives**	
Co-Leaders:	Christina Hernon, MD	Assistant Professor, Emergency Medicine
	Jeroan Allison, MD	Associate Vice Provost for Health Disparities
Members:	Susan Starr, Med	Assistant Professor Medicine & Education Specialist
	John Dickey, MD	PGY 3, Medicine
	Demetrius Litwin, MD	Chair and Professor of Surgery
	Erin McMaster, MD	Clerkship Director, Pediatrics
	Alex Sabo, MD	Chair of Psychiatry, Berkshire Medical Center
	Joel Bradley, MS3	Student, School of Medicine, Class of 2012
ED-B	**Structure of the Education Program**	
Co-Leaders:	Sue Gagliardi, PhD	Professor of Cell Biology and Neurology
	Daniel Lasser, MD	Chair and Professor of Family Medicine & Community Health
Members:	Deborah Field, MD	Clerkship Director, Psychiatry
	Bill Royer, PhD	Professor of Biochemistry & Molecular Pharmacology
	Tom Smith, MD	Professor of Pathology and Neurology
	Andrew Walls, MS3	Student, School of Medicine, Class of 2012
	Michael Ennis, MD	Assistant Dean, Student Advising
	Mary Philbin, EdM	Director, Faculty Development, Department of Medicine
	Molly Wolf, MS1	Student, School of Medicine, Class of 2014
ED-C	**Teaching and Evaluation**	
Co-Leaders:	Robyn Wing, MD	PGY2, Pediatrics
	Dawn Tasillo, MD	Clerkship Director, Obstetrics & Gynecology
Members:	Jane Lochrie, MD	Medicine Program Director, Saint Vincent Hospital
	David Hatem, MD	Clinical Associate Professor of Medicine

	Wendy Gammon, MEd, MA	Director, Standardized Patient Program
	Vincent Miccio, MS3	Student, School of Medicine, Class of 2012
	John Cook, PhD	Associate Professor of Cell Biology
	Lorrie Gehlbach, PhD	Director, Academic Enrichment Program
)-D	**Curriculum Management**	
-Leaders:	Melissa Fischer, MD	Associate Dean, Undergraduate Medical Education
	Noah Rosenberg, MS3	Student, School of Medicine, Class of 2012
embers:	Debra Heitmann, MD	Clinical Associate Professor, Emergency Medicine
	Charles Sagerstrom, PhD	Assistant Professor of Biochemistry & Molecular Pharmacology
	Laura Spring, MS4	Student, School of Medicine, Class of 2011
	Richard Glew, MD	Vice Chair and Professor of Medicine
	Marianne Felice, MD	Chair and Professor of Pediatrics
	Lan Qin, MD, PhD	Assistant Professor of Neurology
	Mary Cheffers, MS1	Student, School of Medicine, Class of 2014
	Chau Tran, MS1	Student, School of Medicine, Class of 2014
)-E	**Program Effectiveness**	
-Leaders:	Julia Johnson, MD	Chair and Professor of Obstetrics & Gynecology
	Julie Jonassen, MD	Professor of Physiology
embers:	Mary Zanetti, EdD	Senior Director, Division of Research, Evaluation & Assessment
	Diana Robillard, MS4	Student, School of Medicine, Class of 2011
	Allison Hargreaves, MD	Assistant Professor of Family Medicine & Community Health
	Jerry Durbin, MD	Professor of Pediatrics
	Lawrence Hayward, MD, PhD	Professor of Neurology
	William Muller, MD	Associate Dean, Medical Education at Milford Regional Medical Center
edical Students		
S-A	**Admissions**	
-Leaders:	Deborah Harmon Hines, PhD	Vice Provost, School Services
	Tom Kramer, MS3	Student, School of Medicine, Class of 2012
embers:	John Paraskos, MD	Associate Dean, Admissions
	Warren Ferguson, MD	Associate Professor of Family Medicine & Community Health
	Mariann Manno, MD	Clinical Associate Professor of Pediatrics
	Marlene Tucker	Director, Office of Diversity and Equal Opportunity
	Shelton Benjamin, MD	Professor of Psychiatry
	Karen Lawton	Director, Admissions
	Juan Ramirez, MS1	Student, School of Medicine, Class of 2014
S-B	**Student Services**	
-Leaders:	Anne Larkin, MD	Associate Professor of Surgery
	Mitch Li, MS2	Student, School of Medicine, Class of 2013
embers:	Sarah McGee, MD, MPH	Clinical Associate Professor of Geriatric Medicine
	Phillip Fournier, MD	Medical Director, Student Health Services
	Danna Peterson, MB, CHB	Assistant Dean, Student Affairs/Diversity & Minority Affairs
	Erica Holland, MS3	Student, School of Medicine, Class of 2012
	Doug Ziedonis, MD, MPH	Chair and Professor of Psychiatry
	Mark Quirk, EdD	Assistant Dean, Academic Achievement
	Betsy Groves	Director, Office of Financial Aid
S-C	**Learning Environment**	
-Leaders:	Mai-Lan Rogoff, MD	Associate Dean, Student Affairs

	Bharath Nath, MS4	Student, School of Medicine, Class of 2011
Members:	Judy Holewa	Administrative Director, Student Affairs
	Mary Hawthorne, MD	Director, Medicine Clerkship
	Tim Gibson, MD	Assistant Professor of Pediatrics
	Michelle Dyke, MS2	Student, School of Medicine, Class of 2013
	Stephen Heard, MD	Chair and Professor of Anesthesiology
	Elias Arous, MD	Professor of Surgery
	Adam Chin, MS1	Student, School of Medicine, Class of 2014

Faculty

FA-A	**Number, Qualifications, Functions**	
Co-Leaders:	David Harlan, MD	Director of the Diabetes Center of Excellence
	Luanne Thorndyke, MD	Vice Provost, Faculty Affairs
Members:	Richard Forster, MD	Vice Chair and Clinical Associate Professor of Medicine
	Robert brown, MD, PDHIL	Chair and Professor of Neurology
	Jill Zitzewitz, PhD	Assistant Professor of Biochemistry and Molecular Pharmacology
	Robert Milner, PhD	Associate Vice Provost, Professional Development
	Mitch Cahan, MD	Clerkship Director, Surgery
FA-B	**Personnel Policies**	
Co-Leaders:	Tony Carruthers, PhD	Dean, Graduate School of Biomedical Sciences
	Jaime Rivera, PhD	Assistant Professor of Cell Biology
Members:	Craig Peterson, PhD	Professor of Program in Molecular Medicine
	Jennifer Daly, MD	Professor of Medicine
	Ronald Adler, MD	Assistant Professor Family Medicine and Community Health
	Mary Lee, MD	Professor of Pediatrics
	Gary Stein, PhD	Chair and Professor of Cell Biology
	Jean King, PhD	Professor of Psychiatry
FA-C	**Governance**	
Co-Leaders:	Octavio Diaz, MD	Associate Dean, Medical Education at Saint Vincent Hospital
	Bob Weinstein, MD	Professor of Medicine
Members:	Judith Ockene, PhD, MEd	Associate Vice Provost, Gender and Equity, Faculty Affairs
	Leslie Shaw, PhD	Associate Professor of Cancer Biology
	Robert Finberg, MD	Chair and Professor of Medicine
	Tiffany Moore-Simas, MD	Assistant Professor of Obstetrics and Gynecology
	Tony Esposito, MD	Saint Vincent Hospital, Chief of Medicine
	Elias Arous, MD	Professor of Surgery
	Susan Pasquale, PhD, MT-BC, NMT	Director, Curriculum and Faculty Development

Educational Resources

ER-A	**Finances**	
Co-Leaders:	Eric Dickson, MD	Senior Associate Dean, UMass Memorial Medical Group; Interim President, UMass Memorial Medical Group
	Bob Jenal	Vice Chancellor, Administration and Finance
Members:	Tom Gakis	Chief Administrative Officer, Medicine
	Ken Rock, MD	Chair and Professor of Pathology
	Julia Gallagher, MD	Assistant Professor of Medicine
	Joyce Murphy, MPA	Vice Chancellor and Chief Operating Officer, Commonwealth Medicine
	Julia Andrieni, MD	Vice Chair and Associate Professor of Medicine
	Nancy Vasil	Associate Vice Chancellor, Administration and Finance

?-B	General Facilities	
)-Leaders:	Bob Matthews, MD	Chair and Professor of Biochemistry and Molecular Pharmacology
	Bob Baldor, MD	Director, Community-Based Education
embers:	Shan Lu, MD, PhD	Professor of Medicine
	Karen Billmers, MS3	Student, School of Medicine, Class of 2012
	John Baker	Associate Vice Chancellor for Facilities Management
	Roger Craig, PhD	Professor of Cell Biology
	Arlene Ash, PhD	Professor and Chief, Quantitative Health Sciences
	Paulette Goeden	Assistant Vice Chancellor, Administration and Finance
?-C	**Clinical Teaching Facilities**	
)-Leaders:	Alice Shakman	Vice President, Operations, UMass Memorial Medical Center
	Martin Broder, MD	Associate Dean, Medical Education, Berkshire Medical Center
	Rebecca Spanagel, MD	Assistant Professor of Medicine, Saint Vincent Hospital
embers:	Scott Shader	Director, Planning and Data Services
	Mary Linton Peters, MS4	Student, School of Medicine, Class of 2011
	Karen Peterson, MD	Clinical Associate Professor of Medicine, Milford Regional Medical Center
	Laurie-Anne Roseberry	Senior Director, UMass Memorial Medical Center
	George Brenckle	Chief Information Officer, UMass Memorial Medical Center
	Lisa Tomaiolo	Senior Space Planner, UMass Memorial Medical Center
?-D	**Information Resources and Library Services**	
)-Leaders:	Elaine Martin, DA	Director, Library Services
	Ralph Zottola, PhD	Associate Chief Information Officer, Research Computing Services
embers:	Lyn Riza	Director, Educational Computing
	Richard Pieters, MD	Clinical Associate Professor of Radiation Oncology
	Ciaran Della Fera, MS3	Student, School of Medicine, Class of 2012
	Frank Domino, MD	Associate Professor of Family Medicine & Community Health
	Joe Fahed, MD	PGY3, Medicine

pplemental Group

tegrating CTS into Education

)-Leaders:	Gyongyi Szabo, MD, PhD	Associate Dean, Clinical & Translational Sciences
	Caitlin Fogarty, MS2	MD/PhD student, School of Medicine
embers:	Cara Weisman	Student, Graduate School of Biomedical Sciences
	Catarina Kiefe, MD, PhD	Chair and Professor of Quantitative Health Sciences
	Michael Czech, PhD	Chair and Professor of Molecular Medicine
	Suzanne Cashman, DSC	Professor of Family Medicine & Community Health
	John Sullivan, MD	Vice Provost for Research, Office of Research
	Lori Pbert, PhD	Professor of Medicine

INSTITUTIONAL SELF-STUDY
SUMMARY FINDINGS

The findings of the 2012 UMMS self-study reveal that UMMS is thriving and adapting to the diverse challenges and pressures facing all medical schools, as well as those unique to UMMS. Building on the achievements that followed the 2004 self-study, UMMS is committed to sustaining the strengths and addressing the challenges that emerge from the 2012 accreditation process, as described below.

STRENGTHS:
In the area of **institutional advancement**, the following have contributed to strengthening the organizational structure and reputation of UMMS nationally and globally:

1. The joint strategic plan with clinical partner UMass Memorial has reinforced our shared mission and the operation of our academic health sciences center as a more fully integrated enterprise serving shared core values, such as patient-centeredness, diversity and inclusion, community and global service, and a commitment to an "ideal learning environment". Specific examples of how this integration has benefitted our academic mission include the expanded role of the Associate Dean for GME as Senior Associate Dean for Clinical Affairs and the redesigned UMass Memorial Medical Group governance, with the establishment of the new role of Senior Associate Dean for the Medical Group.
2. Global recognition of excellence in basic biomedical research has been achieved through the scientific achievements of UMMS faculty, which has included the Nobel Prize awarded in 2006, the Lasker Award in 2008, two National Academy of Sciences members and five Howard Hughes Medical Institute investigators.
3. National recognition in primary care and our social mission of service to the commonwealth has been reinforced by MSMMT data (87th percentile practicing primary care nationally and 81% practicing in-state) and broadly disseminated through US News and World report rankings, in which UMMS is consistently rated in the top tier of medical schools for primary care since the rankings were issued in 2001.
4. A comprehensive Institutional Diversity Plan has been launched with robust resourcing, leadership support at the highest levels and early tangible outcomes in the area of the advancement of women. Since 2004, these outcomes include an increase in the number of women department chairs from one to three; four new women directors of Programs, Centers and Institutes (up from zero in 2004); robust programmatic support for faculty development featuring five women accepted into the ELAM fellowship program since 2006, four of whom have been promoted to institutional leadership roles.
5. The track record of exceptional clinical skills preparedness of our student body remains a strength of our curriculum as evidenced by nearly 100% USMLE Step 2 CS pass rates, since the establishment of the exam in 2004, matched by the strong ratings of our graduates' clinical skills as assessed by their program directors.

In the area of **growth**, the UMMS educational community, campus facilities and institutional resources have prospered as evidenced by the following notable accomplishments:

1. Commonwealth Medicine has yielded an impressive array of innovative services and clinical care partnerships with government agencies statewide, regionally and nationally that benefits the financial portfolio of our medical school and enables UMMS to stand out among other medical schools as first in the nation in "other revenue." The unique academic business model of Commonwealth Medicine creates a stable financial environment for UMMS that is not subject to fluctuations in NIH or state funding cycles and assures long term financial success.

2. The establishment of the UMass Center for Clinical and Translational Science (CCTS) provides an innovative university wide partnership for advancing biomedical translational research across the Commonwealth, The CCTS is also supported by the newly created Department of Quantitative Health Sciences that serves as the academic home for epidemiology, health services research, biostatistics, health informatics, and health outcomes assessment for UMMS.
3. Investments in new campus facilities have created exceptional educational and research space that has been specifically configured to advance our academic mission—including the 515,000 square-foot Albert Sherman Center for education, campus life, and traditional research and 250,000 square-foot Ambulatory Care Center for integration of clinical research with clinical care.
4. The expansion of the School of Medicine class size now in place has been strongly supported by the commonwealth, campus leadership and our diverse educational affiliates, with substantial expansion of new clinical teaching sites and impressive enhancements to our UMMS learning environment with new educational facilities.
5. Substantial growth in our faculty, which has nearly doubled in size since 2004 with the recruitment of nationally recognized faculty and institutional leaders to advance our academic mission.
6. Exceptional student satisfaction continues to be emblematic of a UMMS education. As measured by the AAMC GQ and MSMMT rankings, outstanding UMMS student satisfaction ratings for the overall quality of the educational program have been sustained and consistently surpass the national average by a substantial margin.

In the areas of **programmatic innovation and change,** the goals and priorities of the UMMS strategic plan have been realized through a number of noteworthy programs. Those listed below are programs that exemplify UMMS innovation and achievement in education, research and scholarship.

1. The successful launch of LInC—the new, comprehensively redesigned, curriculum—is now underway. Developed to provide a learner-centered, fully-integrated and competency-based curriculum, LInC has garnered institution-wide engagement and the unanimous approval by the Educational Policy Committee for the new curriculum models that have been proposed to date.
2. The Baccalaureate-MD Program was launched in the fall of 2011, with the goal of expanding University-wide partnerships with the four UMass undergraduate campuses and advancing diversity in our medical school applicant pool and student body.
3. As a CTSA recipient in 2010, UMMS has been recognized for excellence in translational research and its potential to advance clinical research programs across our diverse campus partners.
4. The reorganization of the educational programs for clinical and translational research under the umbrella of the Associate Dean for Clinical and Translational Sciences has stimulated remarkable growth in the MD PhD program, with a threefold increase in enrollment since 2003 and enhanced the expansion and development of clinical research opportunities for all students in the School of Medicine.
5. The establishment of a "continuum model" of oversight for the education mission through the creation of the Office of Educational Affairs has stimulated the integration of the School of Medicine's educational mission across admissions, student affairs, UME, GME, and CME and fostered innovation and national recognition in interprofessional education.

CHALLENGES AND RECOMMENDATIONS

The self-study identified a number of challenges that will need to be addressed in order to maintain our trajectory of success. In meeting these challenges, targeted strategies in program change, growth and institutional advancement are recommended in the following areas:

1. The "flattening" of UMMS student performance outcomes on first time USMLE pass rates for Step 1 has been identified as an area of concern. To ensure that we meet our USMLE performance goals,

school supported and centrally coordinated efforts are now in place to optimize support services, screening and tracking for student performance on USMLE Step 1 and NBME exams. This same effort will be directed to enhancing preparedness for USMLE Step 2 CK first time pass rates, which have shown similar trends.

2. National recognition and productivity in clinical research has not kept pace with achievement in basic biomedical research. Programmatic changes to address this need will require enhanced efforts for recruitment and retention of new faculty and the training and development of junior faculty at UMMS who demonstrate the skills and motivation for career paths in clinical translational science.

3. Growth in the numbers of clinician scientists as educators has been identified as a particular need for the School of Medicine, to serve the needs of the expanding curricular programs in clinical translational science, the increase in MD/PhD students and the projected need for clinician scientists to serve as research mentors for the new capstone requirement. Growth in the availability of these physician scientists will require not only an increase in the numbers of physician scientists, but also an investment in the institutional resources required to develop their skills as educators and assure the adequate support and rewards for their efforts in teaching and mentoring.

4. Augmenting the diversity of faculty and students at UMMS remains a challenge in a state with disproportionately low populations of underrepresented minorities compared to the rest of the country. Increasing the diversity among medical students is a particular challenge, given the in-state residency requirement for admission to the MD program. The Institutional Diversity Plan recognizes these challenges and provides the leadership, resources and strategies for meeting our stated diversity goals.

5. Career and residency guidance has been identified as a distinct need for those UMMS students considering training in the non-primary care specialties, particularly the surgical subspecialties in which UMMS does not have residency programs. With the launch of Learning Communities, programmatic development will be focused on mentor training and resource enhancement to support career advising across all specialties, with a specific focus on residencies not currently offered at UMMS.

6. Anticipating the implementation of the new core clinical curriculum in AY13, "residents as teachers" training programs will need to address new educational formats, methods and expectations for our students in the new LInC Core Clinical Experiences.

7. Based on our AAMC Faculty Forward survey data, both our basic science faculty and our clinical faculty rate their satisfaction above their comparable colleagues at other schools. Consistent with the national trend, clinical department faculty are less satisfied than basic science faculty when compared within our own institution. This is being addressed with institutional efforts to augment recognition of teaching and align incentives for educational effort by the clinical faculty. Tracking mechanisms are in place to measure outcomes as these programs evolve.

8. Succession planning is now underway for retiring and senior faculty educators in physiology and gross anatomy and must be carefully monitored to assure success in the development and recruitment of outstanding teachers for the educational program.

9. The continued expansion and development of UMMS educational affiliates are essential for ensuring diverse, high quality clinical training experiences for students. To assure educational quality and consistency, ongoing programmatic support for coordination and monitoring must keep pace with the increasingly diverse and distributed group of educational affiliates.

10. Securing high quality primary care training sites across our region will require continued recruitment efforts and coordination across departments and programs as the need for ambulatory based training expands with increased class enrollment and competition with other medical schools and health care training programs state-wide.

11. Assuring the continued accessibility and affordability of a UMMS education will require ongoing support for institutional gift aid and fund raising efforts for student scholarships as we transition to our new fee schedule set at the 25th percentile of public schools in the Northeast.

12. Full implementation of the E*Value system will promote streamlined reporting and comprehensive automated data management capability for our curriculum, student and teacher evaluations, educational objectives and outcomes, and faculty effort in teaching.

13. Fiscal planning and budgetary management must continue to monitor and respond to external trends that create uncertainties in key funding sources such as NIH funding for research, payment reform phase of health care reform for clinical services, and philanthropic funding in a setting of volatile trends in the markets.

Building on the strengths emerging from the self-study, the UMMS community will continue the work of addressing the identified challenges with resolve and the same institution-wide partnership that was essential to the success of the self-study process. Backed by a track record of growth, institutional advancement and innovative programmatic development, our School of Medicine is well-equipped to move forward as directed by the Dean's charge to "build on past and present achievements and ensure an ongoing trajectory of success well into the future.

LCME Independent Student Analysis

Core Team

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Stuart [illegible], MS2

Judy Wilder, MS2

Kathleen Gobar, MS1

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Extended Team

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Alexander Hart, MS1

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Matthew Janke, MS1

January 25, 2011

UMass Medical School will be undergoing re-accreditation by the Liaison Committee on Medical Education (LCME) in 2011-2012. One prerequisite for re-accreditation is a thorough self-evaluation of UMMS from the student perspective. To achieve this, a team of students volunteered to create a satisfaction study assessing the entire UMMS experience, both environment and curriculum. This Independent Student Analysis Committee owned the project completely — design, execution, and analysis. UMMS technical departments were used for survey implementation and compilation of raw results. The content and analysis remain without influence from the administration. This report presents the results of that study, and identifies both strengths and opportunities for improvement at UMMS.

Methodology

Timeline

The project was divided into four phases: Team recruitment, Survey design, Fielding, and Analysis. The entire project spanned from October 2010 to January 2011.

Team recruitment

The Core Team was responsible for survey design and leading the analysis and writing. Six students demonstrated interest in a school-wide application process and were elected via vote by the Student Body Committee.

The Extended Team was assembled in January to assist with data analysis and written report generation. Seven additional students were recruited via open solicitation to the student body as well as targeted recruitment by Core Tem members.

Member representation spanned the MS1, MS2 and MS4 classes. While MS3s were not available for a full commitment due to time constraints, they were consulted regularly to ensure inclusion of their perspective.

Survey design

The Core Team designed the survey instrument over a three-week period. Although the 2003 UMMS LCME student report provided a loose foundation, the team developed significant new material to reflect current needs (i.e. LInC curriculum). LCME guidelines and students from self-assessment teams at recently accredited medical schools were consulted for best practices. Technical formatting of questions was vetted with the Research & Evaluation Office (R&E), an in-house consultancy that handles all UMMS surveys.

The goal of the survey was to extract high-quality data regarding the full breadth of the medical school experience without undue time burden to students. As such, each question was deliberated carefully and considered according to its relevance to the LCME accreditation process. In effort to avoid respondent fatigue and unreliable data, included questions were high-yield but not exhaustive. The survey contained largely satisfaction scale questions, with open responses where appropriate.

Fielding

Survey fielding spanned 3 weeks from late November through mid-December 2010. R&E programmed, quality controlled, and distributed the survey via a secure online website. Each student received a personalized link to prevent double-counting, however all results remained blinded to ensure confidentiality and anonymity would be protected. Furthermore, each student retained the ability to skip any questions they felt uncomfortable answering. Periodic reminders were emailed to all students, both formally through R&E as well as informally via the Student Body Committee and Learning Communities leadership. Only the Core Team and R&E had access to tracking completion rates. At no time was student-identifying information available to the Core Team.

Group-based incentives were offered to encourage survey participation. $500 was allotted to each class year for achieving a class-wide participation rate > 80%. In parallel, Learning Communities Houses competed for prizes ranging $50-250 awarded based on their overall House participation rate. All awards will be used in accordance with UMMS policy, with purported benefit to the entire cohort rather than select individuals. All funding was generously provided via the Dean of the Medical School's Office.

Analysis

R&E prepared raw data outputs by both class-year specific and aggregated cohorts. The full Core and Extended Team joined in analyzing the data and drafting text to describe noted trends. In addition, raw data was made available to all LCME workgroups following the report's completion for follow-up studies.

Respondent Demographics

This survey represents the opinions of **78%** of the active* medical school student body.

Class Year	# students completed survey	% of all students taking survey
MS1	112	29%
MS2	110	29%
MS3	72	19%
MS4	86	23%
Total	380	100%

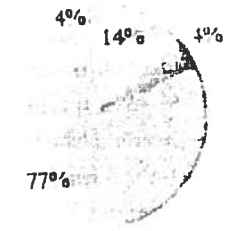
*Excludes students on Leave of Absence (36) – however, 20 LOA students did complete the survey nonetheless and their data is included

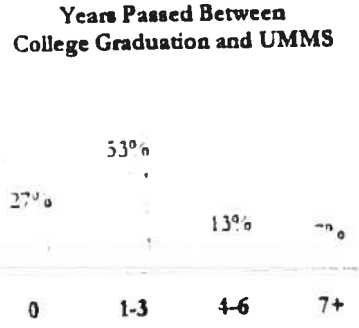
Learning Community House	# students completed
Blackstone	72
Burncoat	71
Kelley	70
Quinsigamond	74
Tatnuck	73
Total**	380

**Includes 20 LOA students completing survey who do not have a LC House affiliation

Additionally, of the 380 respondents, 41 are MD/PhD students. These students self-identified with the most recent year of medical school curriculum they have fully completed, and their responses are included in those respective cohorts.

56% of respondents were female, 44% were male.





The median time to complete the survey was **30 minutes.**

UMMS was founded with a mission for primary care, and the strength of the clinical education is considered one of the finest points of the student experience.

Pre-clinical students (MS1s, MS2s) enjoy significant clinical exposure in their first two years at UMMS, praising the variety of shadowing opportunities and the Longitudinal Preceptor Program in particular. Across the pre-clinical courses, patient testimonies and clinical vignettes are cited as valuable methods to make course material come alive.

The majority of clinical students (MS3s, MS4s) are very satisfied with most clinical rotations. Most clinical sites are regarded as high quality, although with certain exceptions at non-UMMS residency sites. More than three-quarters of students feel the clinical curriculum prepared them well for Step 2 CK and Step 2 CS, with the end of third year assessment (EOTYA) being an invaluable tool leading up to Step 2 CS. However, although most agree that UMMS has prepared them for residency, one-quarter express frustration with not being able to reach a career decision by fall of fourth year. This is one likely driver of the significant percentage (20%) of students choosing to extend to a fifth year. Additionally, students recommend consulting the graduating students on how to tailor the pre-clinical Patient, Physician, and Society course to even better serve the needs of training physicians.

Much of UMMS' success is attributed to its collaborative learning environment.

Faculty are the cornerstone of the UMMS curriculum. Their passion and dedication to teaching are, as one student remarks, "UMMS' greatest strength." Across all class years, students praise the accessibility and responsiveness of the faculty and administration. Students also consistently highlight professors that have significantly shaped their education. Mind Brain and Behavior I and the Pediatrics clerkship, in particular, stand out as stars. That being said, despite excellent professors, students urge a redesign of some courses (e.g. Nutrition, Biochemistry) to enhance clinical focus and Step 1 preparation. Given recent variation in student performance on Step I, many students advocate including USMLE-style questions throughout the courses themselves.

Students also look to one another as a source of inspiration and support. Both clinical and pre-clinical students feel encouraged by the non-competitive atmosphere, the humility and collaborative spirit of peers, and the genuine patient-centered culture at UMMS.

UMMS investment in facilities also advances medical education. The revamped Level A labs and the new integrated Teaching and Learning Center increase efficiency and community learning between pre-clinical students. Although some complaints remain (e.g. parking, gym), these are in the process of being addressed with planned expansion. Students appreciate the administration far being very responsive to rising concerns and actively interacting with students.

UMMS is adapting to meet the evolving needs of medical education.

The 2010 academic year heralded the launch of two significant efforts.

The LInC curriculum was created in part to address two frequently cited concerns: cross-course correlations in pre-clinical material, and earlier access to clinical elective time to inform career planning. In its pilot year, there have been growing pains. MS1s feel challenged by the rapid pace, and coordination between professors could be refined. Nonetheless, students do commend course directors far being responsive, and note improvements even as courses progress. The faculty are encouraged to continue to be proactive in soliciting and implementing feedback. Keeping these lines of communication open will be a mainstay in tightening the LInC curriculum for subsequent years.

Learning Communities (LCs) began with strong momentum and a bold vision. Since August, MS1s have shifted in their roles from passive participants to agents of change. Many hold leadership positions and offer suggestions to increase pan-student body involvement. They remain especially hopeful that LCs will further increase clinical exposure during pre-clinical years by strengthening both formal and informal mentoring opportunities. The faculty mentors have been a significantly positive aspect of the MS1 experience to date.

Over recent years, diversity has increased in both importance and presence at UMMS. Students differ in their definitions of diversity, and thus also in their opinlans on the diversity of the student body. Instances of discrimination have been rare, but not absent. On the whole, however, students welcome the various backgrounds that enrich the UMMS education. Moving forward, UMMS may parallel a national shift by continuing to focus on cultural competence in the curriculum as well as presenting greater diversity in faculty role models.

Purpose

To understand general satisfaction with the UMMS learning environment and facilities separate from the curriculum. Areas addressed include:

- Overall impression of educational experience
- Availability of deans and administrative leaders, including responsiveness to student concerns
- Support for career planning and professional development
- Learning Communities
- Lecture halls, labs, library, student lounge, gym, dining options, and parking
- Technology support, including Blackboard Vista, Help Desk support, PDA and laptop requirements
- Safety and security
- Experiences and perspectives regarding diversity and discrimination at UMMS, as well as cultural competence taught by UMMS.
- Opportunities for research and community service
- Student organizations, including committees, the Student Body Committee (SBC), and national medical societies
- Financial aid, health and counseling services

Students rated their satisfaction with each metric. Unless otherwise specified, "satisfaction" percentages reported in this section include all students indicating either "satisfied" or "very satisfied," while the percentage students indicating "dissatisfied" or "very dissatisfied" will be reported separately. "Agree" percentages reported in this section include all students indicating either "strongly agree" or "agree". Unless otherwise specified, "useful" percentages reported in this section include all students indicating either "extremely useful," "very useful," or "somewhat useful," while the percentage students indicating "a little useful" or "not useful at all" will be reported separately.

Overall UMMS satisfaction

Data summary

The overall quality of the UMMS educational experience received high satisfaction marks, with 95% satisfaction reported by students. Moreover, most students (92%) were satisfied that their UMMS education is preparing them well for their careers. (n = 112 MS1, 110 MS2, 72 MS3, 86 MS4)

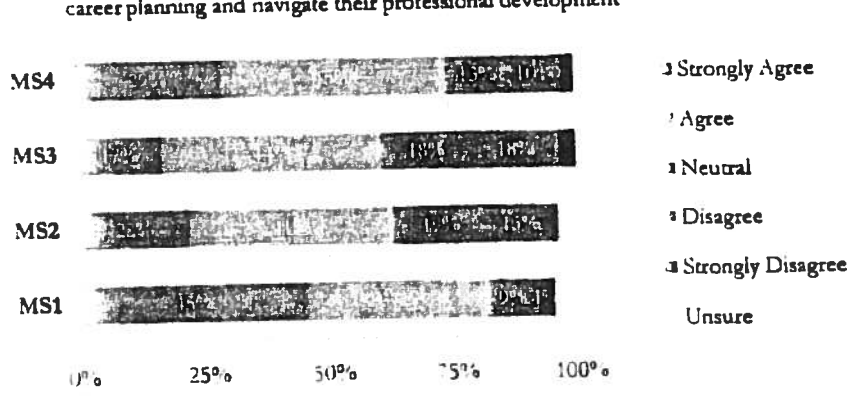
Takeaways

Students were generally satisfied with the quality of the UMMS experience, including the quality of the UMMS education and its role in preparing them for their careers.

Faculty and administration support and accessibility

Data summary

More than 80% of students agreed that deans and administrative leaders were available to them, and that the administration helped resolve their concerns or issues. However, students' satisfaction (70% overall) with the official advising/mentor system was more mixed:



(n = 112 MS1, 110 MS2, 72 MS3, 86 MS4)

LCME Student Self-Study

Aggregate Results

General UMMS Impressions

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Total
Overall quality of UMMS educational experience [MS1,2,3,4]		1%	4%	43%	52%	
		5	14	160	197	376
How well do you feel your UMMS education is preparing you for your career? [MS1,2,3,4]		1%	7%	39%	53%	
		3	27	149	201	380

Specific Aspects of UMMS Experience

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Unsure / NA	Total
Deans and administrative leaders are available to me [MS1,2,3,4]	0%	2%	9%	41%	44%	3%	
	1	6	35	156	169	13	380
The official advising/mentor system helps me prepare for career planning and navigate my professional development [MS1,2,3,4]	1%	11%	15%	41%	29%	3%	
	5	40	55	157	111	11	379
The administration (e.g., student affairs, undergraduate medical education, registrar, educational affairs) helps resolve my concerns or issues [MS1,2,3,4]	1%	2%	12%	41%	40%	4%	
	3	9	44	154	153	16	379

LCME Student Self-Study

Aggregate Results

LEARNING ENVIRONMENT

Students' level of satisfaction with the following regarding the learning environment at UMMS:

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Unsure / NA	Total
ture halls [MS1,2,3,4]	1%	3%	4%	40%	51%	0%	
	3	13	14	153	195	1	379
ll group discussion ference rooms (e.g., 2nd l Goff clusters, student pendent study rooms) S1,2,3,4]	1%	2%	10%	42%	43%	2%	
	3	8	37	161	164	6	379
grated Teaching rning Center (iTLC) S1,2]		1%	8%	30%	55%	6%	
		2	17	66	123	14	222
ulation Center and nical Skills Lab (7th floor UMMS) [MS1,2,3,4]		1%	8%	26%	34%	31%	
		5	32	97	129	116	379
ndardized Patient gram [MS1,2,3,4]	1%	3%	9%	37%	49%	2%	
	2	12	34	140	185	6	379
ter for Academic hievement services g., tutoring, academic nseling) [MS1,2,3,4]	1%	3%	9%	18%	21%	49%	
	2	11	35	68	78	186	380
evel lab facilities S2,3,4]		4%	12%	43%	40%	2%	
		10	31	114	107	6	268

Students' level of satisfaction with the following regarding the library as a learning environment:

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Unsure / NA	Total
rary as a study space S1,2,3,4]	2%	4%	8%	40%	44%	3%	
	6	17	29	152	166	10	380
rary technology services g., computers, scanners, pment for loan) S1,2,3,4]	1%	4%	13%	40%	36%	6%	
	4	17	49	150	135	23	378
ailability of online rnals, PubMed, Up To te, etc. [MS1,2,3,4]	0%	2%	5%	36%	54%	3%	
	1	8	19	135	205	12	380

LEARNING COMMUNITIES

Students' level of satisfaction with learning communities and how well they meet their needs in the following areas:

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Unsure / NA	Total
Social community [MS1,2,3,4]	1%	4%	23%	30%	23%	19%	
	3	15	88	114	87	73	380
Professional networking [MS1,2,3,4]	1%	8%	26%	25%	17%	22%	
	3	32	100	95	65	85	380
Interclass community building [MS1,2,3,4]	1%	8%	24%	31%	18%	19%	
	4	29	91	117	68	71	380
Mentorship & Advising [MS1,2,3,4]	0%	6%	19%	30%	26%	19%	
	1	22	72	114	97	73	379
Counseling [MS1,2,3,4]	0%	5%	24%	25%	18%	28%	
	1	19	90	93	69	104	376

	Not at All	A Little	Somewhat	Very	Completely	Unsure / NA	Total
How accessible is your Learning Communities mentor? [MS1,2]	1%	2%	9%	42%	35%	11%	
	2	5	19	93	77	23	219

LCME Student Self-Study

Aggregate Results

UMMS FACILITIES

Students' level of satisfaction with the following regarding UMMS campus facilities:

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Unsure / NA	Total
iversity gym (1st floor, oining locker room) S1,2,3,4]	24%	33%	13%	14%	2%	14%	
	90	125	51	52	7	55	380
iversity cardio abilitation centerS level) [MS1,2,3,4]	2%	11%	9%	16%	5%	57%	
	8	43	36	59	18	215	379
king at University npus [MS1,2,3,4]	22%	34%	18%	15%	4%	8%	
	82	128	67	57	15	30	379
nvenience/ease of use of iversity campus parking ttle [MS1]	10%	12%	24%	17%	10%	28%	
	11	13	27	19	11	31	112
iversity dining/ food vices (e.g., hours, ricted-diet options) S1,2,3,4]	12%	23%	25%	33%	4%	3%	
	46	87	95	126	15	10	379
ection of textbooks and plies at University npus bookstore S1,2,3,4]	1%	3%	17%	52%	19%	8%	
	3	10	64	198	71	32	378
dent lounge and other ormal gathering places students [MS1,2,3,4]	1%	6%	9%	53%	30%	1%	
	3	23	35	200	114	5	380

LCME Student Self-Study

Aggregate Results

TECHNOLOGY

Usefulness of the following technologies in students' education:

	Not at All	A Little	Somewhat	Very	Extremely	Unsure / NA	Total
Blackboard Vista interface (e.g., online notes, videos for pre-clinical classes) [MS1,2,3,4]	2%	5%	26%	34%	33%	0%	
	7	18	97	130	127	1	380
Technological support (e.g., walk-in IT help desk) [MS1,2,3,4]	2%	9%	21%	37%	25%	7%	
	8	33	80	139	94	25	379
Inside.umassmed.edu homepage (e.g., curriculum calendars, student self-service, on campus event calendar) [MS1,2,3,4]	1%	7%	24%	40%	26%	1%	
	5	28	92	153	99	2	379
Laptop requirement [MS1]	13%	13%	21%	25%	25%	3%	
	15	14	24	28	28	3	112
Electronic medical record access and usability (including Allscripts, Meditech, and TeamNotes) [MS3,4]	3%	11%	28%	39%	18%	2%	
	5	17	44	61	28	3	158
PDA requirement [MS3,4]	2%	10%	20%	37%	26%	5%	
	3	16	32	58	41	8	158

LCME Student Self-Study

Aggregate Results

SAFETY, HARASSMENT, & DIVERSITY

Extent to which students agree with the following regarding safety, harassment, and diversity at UMMS:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Unsure / NA	Total
el safe on the University campus ight [MS1,2,3,4]		1%	4%	41%	54%		
		4	14	156	206		380
el safe using the shuttle service at at [MS1,2,3,4]	0%		5%	13%	17%	65%	
	1		19	48	65	245	378
ow how to reach University pus security when necessary 1,2,3,4]	2%	21%	13%	34%	21%	9%	
	6	78	51	131	80	34	380
el that I have been treated hout discrimination by other lents with regard to my nicity, gender, sexual ntation, religion, disability, etc. 1,2,3,4]	3%	1%	3%	26%	68%	0%	
	10	3	10	99	256	1	379
el that I have been treated hout discrimination by faculty regard to my ethnicity, der, sexual orientation, religion, bility, etc. [MS1,2,3,4]	3%	2%	2%	27%	66%	0%	
	11	7	8	101	250	1	378
n satisfied with the diversity , ethnicity, gender, sexual ntation, religion, disability) of UMMS student body 1,2,3,4]	4%	12%	16%	34%	34%	1%	
	15	45	59	129	127	4	379
n satisfied with the diversity , ethnicity, gender, sexual ntation, religion, disability) of UMMS faculty [MS1,2,3,4]	5%	8%	16%	37%	32%	2%	
	18	32	60	139	121	8	378
el there is sufficient support for diversity-related concerns at MS [MS1,2,3,4]	2%	5%	12%	31%	37%	15%	
	7	17	44	115	138	56	377

LCME Student Self-Study

Aggregate Results

Extent to which students agree UMMS has prepared them for the following:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Unsure / NA	Total
providing appropriate and culturally sensitive care for patients from different racial/ethnic/cultural/religious backgrounds [MS1,2,3,4]	1%	5%	6%	43%	43%	2%	
	3	20	22	164	164	7	380
providing appropriate and culturally sensitive care for patients in the lesbian, gay, bisexual, and transgender community [MS1,2,3,4]	2%	7%	12%	39%	36%	3%	
	7	28	47	148	134	13	377
good understanding of social determinants of health, such as socioeconomic status and racial health disparities [MS1,2,3,4]	2%	4%	6%	41%	46%	1%	
	7	14	24	156	174	2	377

RESEARCH & COMMUNITY SERVICE

Extent to which students agree UMMS has prepared them for the following:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Unsure / NA	Total
The curriculum schedule allows me flexibility to participate in volunteer activities [MS1,2,3,4]	2%	11%	13%	48%	25%	1%	
	8	41	48	183	96	2	378
Volunteer opportunities are readily accessible in areas of my interest [MS1,2,3,4]	1%	5%	8%	51%	34%	1%	
	2	19	31	194	128	5	379
There are adequate opportunities and support for participating in research at UMMS [MS1,2,3,4]	2%	5%	9%	43%	26%	14%	
	8	18	36	164	100	53	379

LCME Student Self-Study

Aggregate Results

STUDENT ORGANIZATIONS

Extent to which students agree with the following regarding the breadth of student organizations available at UMMS:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Unsure / NA	Total
dent organizations are available oss a broad range of interests S1,2,3,4]	0%	1%	3%	46%	49%	1%	
	1	4	12	174	183	3	377
ere is adequate student resentation on committees g., Oath Committee, Curriculum mmittee, Ethics Committee) S1,2,3,4]	0%	1%	4%	47%	40%	8%	
	1	2	17	178	151	29	378
el that the Student Body mmittee is an effective advocacy ly for student issues [MS1,2,3,4]	1%	5%	13%	45%	26%	9%	
	3	20	51	169	100	35	378

FINANCIAL AID, HEALTH, & COUNSELING SERVICES

Students' level of satisfaction with the following regarding financial aid, student health services, and counseling options:

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Unsure / NA	Total
Adequacy of my financial aid package [MS1,2,3,4]	1%	3%	11%	30%	36%	19%	
	2	13	41	113	137	73	379
UMMS' health insurance benefits [MS1,2,3,4]	2%	4%	11%	33%	17%	32%	
	9	17	43	125	64	120	378
UMMS' health insurance cost [MS1,2,3,4]	11%	19%	13%	17%	9%	30%	
	41	72	51	65	35	115	379
UMMS' dental insurance benefits [MS1,2,3,4]	7%	15%	15%	14%	7%	43%	
	26	55	57	53	25	163	379
UMMS' dental insurance cost [MS1,2,3,4]	6%	13%	15%	14%	6%	46%	
	23	49	57	54	23	172	378
Accessibility of health services for my urgent care needs (e.g., walk-in clinic, after-hours emergency needs) [MS1,2,3,4]	2%	5%	10%	34%	25%	24%	
	7	19	37	130	95	91	379
Accessibility of health services for my routine health care needs (e.g., prescription refills, flu clinics) [MS1,2,3,4]	1%	3%	8%	41%	30%	16%	
	5	13	30	155	115	61	379
Student Counseling Service (mental health services) [MS1,2,3,4]	2%	3%	6%	16%	22%	51%	
	7	10	21	61	85	195	379

LCME Student Self-Study

Aggregate Results

GENERAL CURRICULUM ASSESSMENT

Students' level of satisfaction with the following:

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Unsure / NA	Total
erall quality of the first r curriculum [MS1,2,3,4]	1%	6%	11%	56%	16%	1%	
	3	22	41	250	60	3	379
gration of clinical content the first-year curriculum S1,2,3,4]	1%	11%	13%	53%	21%	1%	
	4	40	51	201	80	4	380
asurement of student ievement in the first year S1,2,3,4]	2%	5%	15%	57%	19%	2%	
	6	18	58	215	74	9	380
erall quality of the second r curriculum [MS2,3,4]	1%	4%	7%	63%	24%	0%	
	2	12	18	170	65	1	268
gration of clinical content the second year iculum [MS2,3,4]	0%	6%	8%	57%	28%	1%	
	1	16	22	152	75	2	268
asurement of student ievement in the second r [MS2,3,4]	1%	6%	11%	62%	19%	1%	
	2	17	30	165	51	3	268
erall quality of the uired clerkships [MS3,4]		3%	5%	61%	30%	1%	
		4	8	97	48	1	158
asurement of student ievement in the third year S3,4]	4%	10%	21%	46%	16%	3%	
	6	16	33	72	26	5	158
erall quality of the clinical tives [MS4]			5%	57%	38%		
			4	49	33		86
asurement of student ievement in the fourth r [MS4]	1%	7%	12%	49%	27%	5%	
	1	6	10	42	23	4	86
erall professionalism of UMMS faculty S1,2,3,4]	0%	1%	3%	42%	54%		
	1	5	11	158	205		380
e school's response to dent feedback about ching concerns S1,2,3,4]	3%	7%	11%	44%	33%	3%	
	10	25	43	165	123	12	378
ss preparation and/or ividual tutoring support USMLE exams [MS3,4]	8%	18%	16%	36%	16%	6%	
	13	28	25	57	25	10	158

LCME Student Self-Study

Aggregate Results

LInC CURRICULUM

Extent to which students agree with the following regarding the new LInC Curriculum:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Unsure / NA	Total
Administration is responsive to student concerns [MS1]	1%	4%	8%	35%	49%	3%	
	1	5	9	39	55	3	112
Amount of time spent in class each week is satisfactory [MS1]	3%	11%	9%	44%	33%	1%	
	3	12	10	49	37	1	112
Material is well integrated within the curriculum [MS1]	4%	13%	16%	46%	21%	1%	
	4	14	18	52	23	1	112
LInC curriculum adequately incorporates clinical correlations [MS1]	2%	4%	12%	51%	31%	1%	
	2	4	13	57	35	1	112
Scheduling of class time before exams allows sufficient time for study and test preparation [MS1]	9%	22%	20%	33%	15%	1%	
	10	25	22	37	17	1	112
Scheduling of class time immediately following exams is satisfactory [MS1]	26%	34%	19%	9%	11%	1%	
	29	38	21	10	12	1	111
Laptops are effectively utilized to enhance learning [MS1]	8%	8%	14%	38%	32%	1%	
	9	9	15	42	35	1	111
Immersion Day experience was useful in learning about medical teams and the care of hospitalized patients [MS1]	9%	14%	12%	33%	29%	3%	
	10	16	13	37	32	3	111
I appreciated having a white coat ceremony [MS1]	2%	4%	9%	31%	54%	1%	
	2	4	10	35	60	1	112
There is enough time in the schedule for un-scheduled, academic activities (e.g., LPP, prep work, electives) [MS1]	4%	8%	9%	50%	28%	1%	
	5	9	10	56	31	1	112
House mentors are readily accessible and responsive to students [MS1]			6%	37%	53%	4%	
			7	41	59	5	112

LCME Student Self-Study

Aggregate Results

GENERAL CLINICAL CURRICULUM

Students' level of satisfaction with the following regarding the general clinical curriculum:

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Unsure / NA	Total
iety of clinical sites ilable for clerkships 53,4]			5%	63%	31%	1%	
			8	100	49	1	158
ormation and guidance vided in preparation for clerkship lottery [MS3,4]		6%	9%	56%	28%	1%	
		10	14	89	44	1	158
erclerkships as a means to lress aspects of the riculum not covered in the kships [MS3,4]	4%	11%	12%	44%	27%	1%	
	7	18	19	70	42	2	158
rsonal days" policy 53,4]	6%	15%	21%	35%	15%	8%	
	9	24	33	55	24	13	158
iety of Sub-Internships ilable [MS4]		8%	10%	49%	33%		
		7	9	42	28		86
iety of electives available CMMS [MS4]		1%	6%	51%	42%		
		1	5	44	36		86
gree to which the clinical riculum provided paration for Step 2 CK 54]	1%	6%	8%	42%	33%	10%	
	1	5	7	36	28	9	86
gree to which the clinical riculum provided paration for Step 2 CS 54]	1%		6%	33%	49%	11%	
	1		5	28	42	9	85
gree to which the End of ird Year Assessment DTYA) provided paration for Step 2 CS 54]		1%	9%	22%	57%	10%	
		1	8	19	49	9	86

LCME Student Self-Study

Aggregate Results

		Count	Percent
At the present time, I am adequately prepared for my residency and career planning needs: [MS4]	Yes	73	94%
	No	5	6%
	Total	78	

Students' level of satisfaction with the following regarding career planning support:

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Unsure / NA	Total
Degree to which the clinical curriculum allowed me to explore the various fields of medicine to support career decision-making by September of my 4th year [MS4]	4%	21%	17%	42%	14%	3%	
	3	16	13	33	11	2	78
Information provided by the "soup to nuts" sessions [MS4]		5%	19%	60%	13%	3%	
		4	15	47	10	2	78
Career advising available to me in my 4th year (e.g., specialty coaches, student affairs, departmental events) [MS4]		12%	14%	55%	18%	1%	
		9	11	43	14	1	78
Support provided to complete my ERAS application [MS4]		9%	12%	45%	18%	17%	
		7	9	35	14	13	78
Support provided to prepare me for interviewing [MS4]		4%	25%	39%	13%	19%	
		3	19	30	10	15	77

LCME Student Self-Study

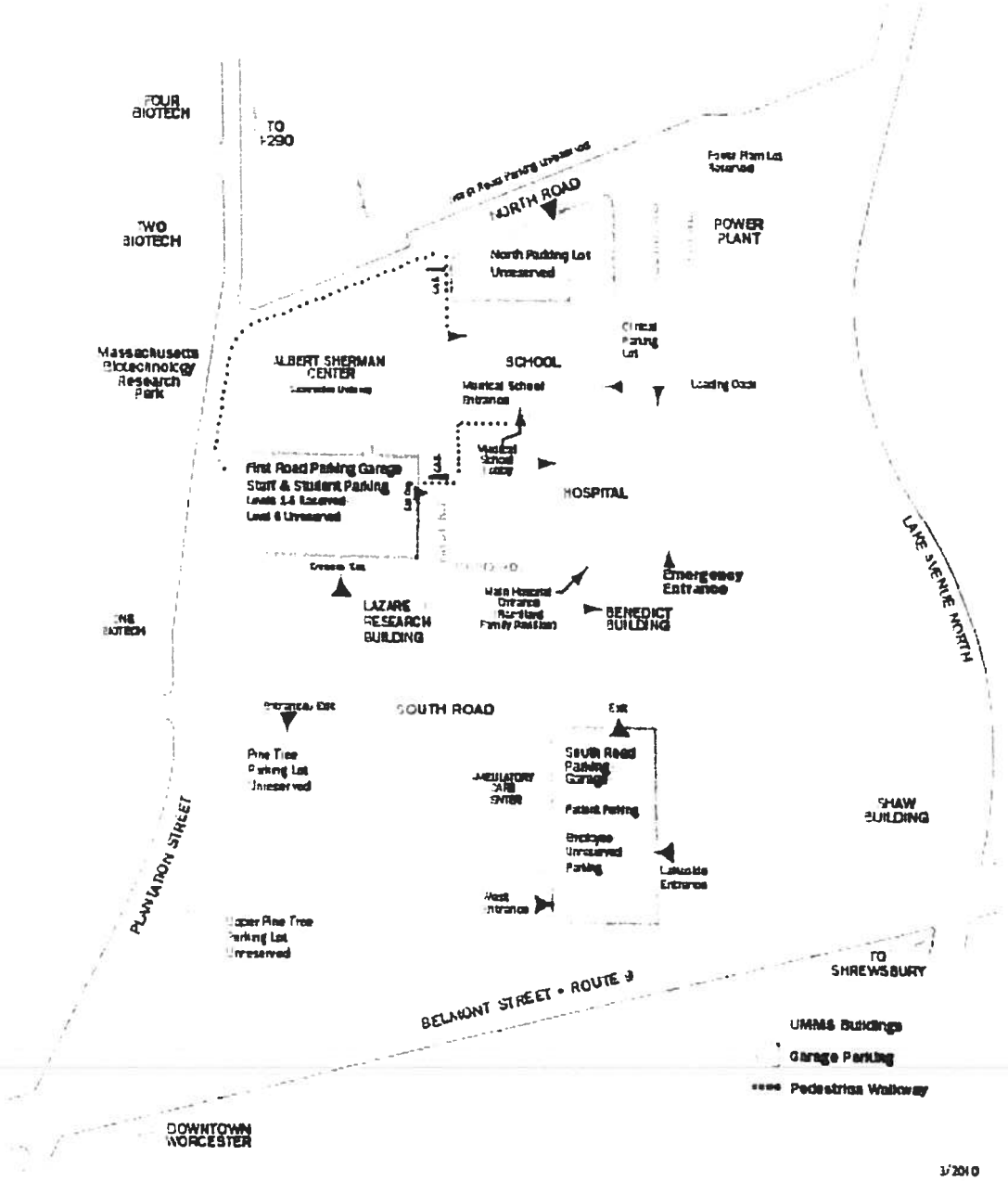
Aggregate Results

		Count	Percent
Did you take any external electives? [MS4]	Yes	51	66%
	No	26	34%
	Total	77	

Students' level of satisfaction with the following regarding scheduling support:

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Unsure / NA	Total
e PEP process as a means to iew and communicate my year schedule plans [MS4]	5%	9%	27%	45%	14%		
	4	7	21	35	11		78
port to apply for external tives through VSAS [MS4]	1%	4%	9%	41%	13%	32%	
	1	3	7	32	10	25	78
port to apply for external tives for non-VSAS grams [MS4]	1%	4%	10%	29%	17%	38%	
	1	3	8	23	13	30	78

University of Massachusetts Medical School
Campus Map



ACADEMIC HEALTH SCIENCES CENTER

STRATEGIC PLAN 2009-2014

Summary

Our mission is to advance the health and well-being of the people in the commonwealth and the world through pioneering advances in education, research, and health care delivery. We value:

- improving health and enhancing access to care for people within our community, the commonwealth, and the world;
- excellence in achieving the highest quality standards in patient care and satisfaction, education, and research;
- common good as an institutional focus, exercised both internally and externally;
- collegiality as we work through a shared vision for the common good;
- integrity in decision-making and actions held to the highest ethical standards;
- diversity promoted within our institution to foster an atmosphere of compassion, courtesy, and mutual respect, stimulating inventiveness and broadening our talents and perspectives;
- academic opportunity and scholarship through high-quality, affordable educational programs for the training of physicians, nurses, advanced practitioners, researchers, and educators; and
- scientific advancement made possible by embracing creative thinking and innovation to yield an understanding of the causes, prevention, and treatment of human disease for the pursuit of knowledge and the benefit of people everywhere.

In the fall of 2007, UMMS and its clinical partner, UMass Memorial Health Care, embarked on a strategic planning process for FY 2009 – FY 2014. The planning document notes as a leading academic health sciences center, there are shared values and a common vision. This strategic planning process created a blueprint to achieve six goals, which were created through consensus by representative groups of both organizations. These strategic goals are to:

(1) Design the Future Model of Health Care Delivery
Today's health care delivery model will be fundamentally transformed by change occurring relatively quickly over the next few years. The future model will need to be patient-centric with enhanced coordination of care among patients, providers and payers. Also, it will need to integrate an ever-increasing body of scientific knowledge of both generalized best practice (evidence-based medicine) and individualized bet practice (personalized medicine). Our goal, therefore, is to be a forerunner in creating the future model of its delivery.

(2) Build the Workforce of the Future
Projecting the future need and supply of health care professional is an ongoing challenge, with estimated shortages or surpluses often subject to much debate. Yet virtually all agree that outstanding medical education, research, and clinical care must start with a solid foundation in an exceptionally well-prepared and diverse workforce.

(3) Design an Ideal Learning Environment
In addition to focusing on who we educate and how we guide their educational pursuits into the future, we must ensure a supportive environment that is both consistent with our values and

conducive to the outcomes we hope to achieve. To become a leading academic health sciences center, we must improve our future learning environment by providing the educational and technological resources and infrastructure necessary for contemporary learning and by developing a culture that is permeated by lifelong learning, kindness and professionalism demonstrated in both actions and words, and transparency surrounding all interactions.

(4) Translate Discovery Into Practice

As an interprofessional campus engaged in ongoing research and community service, we seek to transform our world-class clinical and translational research enterprise in order to bring scientific discoveries into clinical application and to overcome barriers in translating knowledge into practice.

(5) Be a High Performance/High Reliability Organization

Every administrative and leadership structure should exist to serve a function that facilitates the mission of the UMass Academic Health Sciences Center. As the world changes with startling rapidity, our challenges intensify each day. We cannot simply strive to maintain current levels of performance; we must commit to raising the bar for all outcomes.

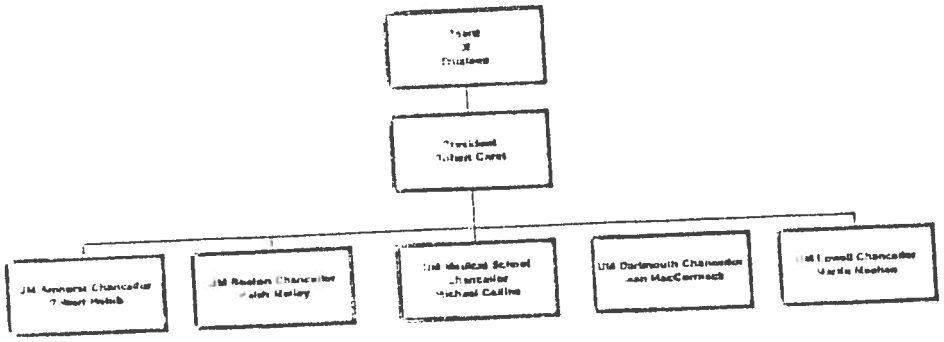
(6) Have a significant impact in the world

Breakthrough discoveries must be coupled with the creation of systems for translating those findings to pioneering care for our community, the commonwealth, and the world. An impact can also be made through public service, a global strategy and linkages. We must work to establish a network of global partnerships that mutually benefits and enriches education, health professions training, and quality patient care.

University of Massachusetts Leadership

Academic Year 2010-2011

University of Massachusetts



University of Massachusetts
UMASS Medical School

7.1.11

Academic Year: 2009-2010

AY 10-11, UMMS Leadership, 12-1-2011

DEAN'S POSITION DESCRIPTION

The Dean, Provost and Executive Deputy Chancellor is the chief academic officer of the Medical School, and chief administrative officer of the School of Medicine. The Dean reports directly to the Chancellor of the University of Massachusetts Medical School. The Dean exercises the authority of the Chancellor in his absence. The Dean plays a key leadership role in planning and implementing the agenda for the campus and for achieving its academic goals. The Dean has the resources and authority to set and achieve clearly defined goals for the campus and to work with the Chancellor, the Vice Chancellor for Finance and Administration, the Deputy Chancellor for Commonwealth Medicine, and other members of the Chancellor's senior leadership team to do so.

The major responsibilities are:

- Overseeing the academic activities of the basic and clinical science departments, including education and research for the School of Medicine (SOM) and the Graduate School of Biomedical Sciences (GSBS), and maintaining a high-quality academic environment.
- Preparing and administering the budget of the School of Medicine and its academic departments; exercising complete budgetary authority for the research and educational enterprise of the School of Medicine and GSBS.
- Continuing the commitment to and national leadership in the training of primary care physicians while still building excellence in the medical sub-specialties.
- Pursuing emerging efforts and new initiatives in clinical and translational research as an important dimension for the immediate future. Generating combined clinical and research programs that are interdisciplinary in order to create a more coherent whole.
- Developing, allocating and ensuring the effective use of financial and physical resources in the school, including the allocation and effective use of all space assigned for education and research, and all academic program support space. In conjunction with the other members of the Chancellor's senior leadership team, advising the Chancellor on matters of campus policy, vision, strategic planning and long-range budgeting, and centrally supported strategic investments.
- Advising and assisting the Chancellor in his administration of the campus, of the institutional infrastructure and external relationships.
- Serving as the chief academic and executive officer for medical education; fostering scholarly activity in all medical school academic departments and within the Dean's office.
- Maintaining and enhancing undergraduate, graduate, graduate medical, and continuing medical education, including providing coordinated oversight of the curriculum and curricular change; and overseeing and evaluating the quality and appropriateness of its content and presentation to undergraduate medical students in all of their training.
- Recruiting all basic and clinical science department chairs. (Clinical science department chairs are jointly appointed by the School of Medicine and the CEO of UMass Memorial Health Care.)
- Approving all School of Medicine faculty appointments, promotions and reviews, and advising on total compensation for clinical faculty. Ensuring retention of key physician and scientific faculty and leading the recruitment of top talent in teaching and research.
- Working collaboratively with the CEO of UMass Memorial Health Care and his executive team to support a clinical enterprise that provides quality care for patients and a state of the art training experience for students and residents.
- Supporting a clinical environment that is conducive to appropriate integration of the educational and research programs.
- Enhancing clinical research and teaching and providing leadership and responsibility for the educational and research effectiveness of the clinical departments.

- Serving as the Chancellor's designee on the UMass Memorial Health Care Board of Trustees, providing leadership to foster collaboration such that the operations of the health system support the clinical, research and educational missions of the medical school.
- Being active in issues involving faculty in their clinical roles in the practice plan, the hospital and affiliated hospitals, creating opportunities and connections between clinical and basic science faculty and working to secure additional resources that will enable the faculty to better participate in the teaching and research mission of the School of Medicine.
- Overseeing the Vice Provost for Faculty Affairs re: academic and operational matters, including developing programs for faculty development; administering the tenure review processes and other established academic personnel policies and procedures for the School of Medicine in accord with the university dictates.
- Overseeing all activities related to the accreditation of all educational programs, including LCME, ACGME and ACCME reviews, NEASC; developing and overseeing, in collaboration with department chairs, the regular evaluation of faculty as teachers and scholars at all levels of medical education as well as the development and oversight of faculty as teachers at both the school and affiliated facilities.
- Understanding and meeting the school's responsibilities to students, faculty and academic staff; creating a collaborative climate in which everyone is working to support a set of commonly understood objectives and goals.
- Approving and monitoring the effectiveness of all educational affiliations, including preceptorships for medical students, residents and fellows; developing and implementing the university's agreements with affiliated health care facilities, hospitals, clinics and other health-related organizations.
- Continuing the positive relationships and coordination across UMass campuses; at the direction of the Chancellor, participate with other University of Massachusetts System campus academic and administrative officers in strategic planning and the development of university-wide priorities and goals

BRIEF RESUME

DEAN TERENCE R. FLOTTE, MD

Terence R. Flotte, MD, is Dean of the School of Medicine and Provost and Executive Deputy Chancellor at the University of Massachusetts Medical School.

Dr. Flotte joined UMMS in May 2007 from the University of Florida, where he was the Nemours Eminent Scholar and Chair of the Department of Pediatrics for the College of Medicine. He received his undergraduate degree in the biological sciences from the University of New Orleans in 1982, and his medical degree from the Louisiana School of Medicine in 1986. After serving his residency in pediatrics at The Johns Hopkins University, he completed a pediatric pulmonary fellowship and postdoctoral training in molecular virology there in 1992.

In 1996, Dr. Flotte joined the faculty of the University of Florida (and was appointed Associate Director of UF's Powell Gene Therapy Center. In 2000, he was named Director of the Powell Center and founding director of the newly established UF Genetics Institute, a cross-campus multidisciplinary unit encompassing gene therapy, human genetics, agricultural genetics and comparative genomics. In 2002, he stepped down from these roles to accept the position of Chair of the Department of Pediatrics.

As UF Pediatrics Chair, Dr. Flotte led the department in a number of key projects, including the establishment of a Division of Cellular and Molecular Therapy that has garnered more than $2 million per year in extramural funding from the National Institutes of Health and the creation of the Congenital Heart Disease Center of Excellence, which combines cutting-edge clinical care from pediatric cardiac surgery and cardiology in a unique single-line-of-business entity. Under his stewardship, the research grants revenue to the Department of pediatrics nearly doubled and clinical revenue increased by nearly 50%. Key faculty recruits and high productivity in critical strategic areas, such as translational research in regenerative medicine and vital clinical programs in congenital heart disease, neurology and hematology-oncology, also characterized his successful UF tenure.

Since joining the University of Massachusetts Medical School, Dr. Flotte has led numerous successful initiatives elevating the academic stature of the institution including, for example, establishing the department of Quantitative Health Sciences and elevating Ophthalmology to department level and recruitment of those chairs; recruitment of the chairs of Neurology and OB/GYN; development of the Advanced Therapeutics Cluster including the Gene Therapy Center, the Center for Bioinformatics and Integrative Biology, and the Center for Stem Cell Biology and Regenerative Medicine. The class size of the School of Medicine was increased from 104 to 125; a revised curriculum has been developed and implemented with "Learning Communities" with faculty mentors. The research enterprise of the institution has grown to over $258M, 2 additional faculty have been appointed to the Howard Hughes Medical Institute for a total of seven HHMI faculty at UMMS, and a new 500,000sqft facility is being built to house the growing clinical and translational research laboratories as well as provide a new "educational home" for faculty and students.

An internationally known pioneer in human gene therapy, Dr. Flotte is currently investigating the use of gene therapy for genetic diseases that affect children, mainly cystic fibrosis. In 1995, Dr. Flotte and h AAV, as a vehicle to deliver corrective genes to targeted sites in the body, including the damaged airways of adults with cystic fibrosis. Since joining UF, Dr. Flotte has continued his pediatric practice while pursuing clinical trials and basic laboratory research to determine how to treat genetic disorders using vectors, or viruses modified to carry corrective genes. He is the author of more than 180 scholarly papers

and his research has been funded by the National Institutes of health, the Cystic Fibrosis Foundation and the Juvenile Diabetes Research Foundation.

Dr. Flotte has received numerous honors and awards including the Society for Pediatric Research's E. Mead Johnson Award for Outstanding Scientific Contributions and the University of Florida Faculty Research Prize in Clinical Science. He has been elected to the American Association of Physicians, the American Pediatric Society, the Society for Clinical Investigation, and the Society for Pediatric Research.

is colleagues at Johns Hopkins became the first to use the apparently harmless adeno-associated virus, or

Academic Year: 2009-2010

BACKGROUND INFORMATION ABOUT THE MEDICAL SCHOOL

a. Insert a copy of the medical school's current entry in the AAMC *Directory of American Medical Education* and indicate the year of the entry.

2011 Directory of American Medical Education

University of Massachusetts Medical School
55 Lake Avenue North
Worcester, Massachusetts 01655
508-856-8000 (dean's office); 508 856 8181 (fax)
E mail: terry flotte@umassmed.edu
Web site. www.umassmed.edu

The Medical School was established by an act of the General Court in 1962. The teaching hospital [illegible] 1970 is UMass Memorial Medical Center. The first freshman class was [illegible]

Type: [illegible]
2011 total enrollment: [illegible]
Clinical facilities: UMass Memorial University and Memorial Campuses, Berkshire Medical Center, [illegible] Hospital, St. Elizabeth's Medical Center, [illegible] Regional Hospital.

University Officials

President
Senior Vice President for Health Sciences and Chancellor
Provost and Executive Deputy Chancellor
Deputy Chancellor for Commonwealth Medicine
Vice Chancellor for Communications
Vice Chancellor for Administration and Finance
Vice Chancellor for Development
Vice Provost for School Services
Associate Vice Chancellor for Diversity and Equal Opportunity
Associate Vice Chancellor for Human Resources
Associate Vice Chancellor for University Relations
Vice Provost for Research
Associate Provost for Global Health
Vice Provost for Faculty Affairs
Associate Vice Provost for Clinical and Population Health Research
Associate Vice Provost for Research
Associate Vice Provost for Research
Associate Vice Provost for Professional Development
Associate Vice Provost for Faculty Affairs

Jack Wilson, Ph.D.
Michael F. Collins, M.D.
Terence R. Flotte, M.D.
Thomas D. Manning
Edward J. Keohane
Robert [illegible]
[illegible] Pagram
Deborah Harmon Hines, Ph.D.
Deborah Plummer, Ph.D.
[illegible] Barrett
Mark L. Shelton
John Sullivan, M.D.
Katherine Luzuriaga, M.D.
[illegible] Thorndyke, M.D.
Walter [illegible], M.D.
[illegible] Pederson, Ph.D.
[illegible] Schneider, Ph.D.
Robert J. Milner, Ph.D.
[illegible] O'Kane, Ph.D.

Medical School Administrative Staff

Dean
Assistant Dean for Administration, Chief of Staff
Senior Associate Dean for Educational Affairs
Associate Dean for Admissions
Associate Dean for Student Affairs
Associate Dean for Graduate Medical Education
Associate Dean for Continuing Education
Associate Dean and Director of Medical Education, Berkshire Medical Center
Associate Dean, Veterans Affairs
Associate Dean, Worcester Medical Center
Associate Dean for Basic Biomedical Sciences
Associate Dean for Student Diversity
Associate Dean for Clinical and Translational Research
Associate Dean for Clinical and Translational Biomedical Sciences (GSBS)
Associate Dean, Graduate School of Biomedical Sciences, [illegible] Diversity and Minority Affairs
Assistant Dean of Student Affairs-Diversity and Minority Affairs
Assistant Dean, Academic Achievement
Assistant Dean, Academic Advising
Director of Animal Medicine

Terence R. Flotte, M.D.
Lisa B. [illegible]
Michele P. Pugnaire, M.D.
[illegible] Paraskos, M.D.
[illegible] Reed, M.D.
Deborah M. DeMarco, M.D.
[illegible] Kneeland, M.D. (Interim)
Martin Broder, M.D.
[illegible] Rosenbaum, M.D.
[illegible] Diaz, M.D.
[illegible] Wright, Ph.D.
[illegible] Lewis, Ph.D.
[illegible] Szabo, M.D., Ph.D.
[illegible], Ed.D.
[illegible], M.D.
Mark E. Quirk, M.D.
Michael C. [illegible], M.D.
[illegible] Silverman, D.V.M.

[illegible]

University of Massachusetts Medical School, MASSACHUSETTS

Department and Division or Section Chairs

Basic Sciences

[illegible]	[illegible] Carruthers, Ph.D.
[illegible]	[illegible] Robert Mathews, M.D.
[illegible]	[illegible] Interim)
[illegible]	[illegible] Ph.D.
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

Clinical Sciences

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
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[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

2012 American Medical Directory Submission (changes from 2011 marked in bold)

University of Massachusetts Medical School
55 Lake Avenue North
Worcester, Massachusetts 01655
508-856-8000 (dean's office); 508-856-8181 (fax)
508-856-8989 (general)
E-mail: terry.flotte@umassmed.edu
Web site: www.umassmed.edu

The University of Massachusetts Medical School (UMMS) is the centerpiece of a comprehensive academic medical center committed to achievements in health sciences education, research, public service and clinical care. The Commonwealth of Massachusetts' first and only public medical school, UMMS was founded in 1962 to provide affordable, high-quality medical education to state residents and to increase the supply of primary care physicians.

Type: public
2012 total enrollment: 514
Clinical facilities: UMass Memorial-University and Memorial Campuses, Berkshire Medical Center, St. Vincent Hospital, St. Elizabeth's Medical Center, **Milford Regional Medical Center**

University Officials

President ..... **Robert Caret, Ph.D.**
Senior Vice President for Health Sciences and Chancellor ..... Michael F. Collins, M.D.
Chief of Staff to the Chancellor ..... Brendan H. Chisholm
Provost and Executive Deputy Chancellor ..... Terence R. Flotte, M.D.
Deputy Chancellor for Commonwealth Medicine ..... **Joyce A. Murphy**
Vice Chancellor for Communications ..... Edward J. Keohane
Vice Chancellor for Administration and Finance ..... Robert Jenal
Vice Chancellor for Development ..... Charles Pagnam
Vice Chancellor for Human Resources, Diversity & Inclusion ..... **Deborah Plummer, Ph.D.**
Associate Vice Chancellor for University Relations ..... Mark L. Shelton
Vice Provost for School Services ..... Deborah Harmon Hines, Ph.D.
Vice Provost for Research ..... John Sullivan, M.D.
Vice Provost for Faculty Affairs ..... Luanne Thorndyke, M.D.
Associate Provost for Global Health ..... Katherine Luzuriaga, M.D.
Associate Vice Provost for Research ..... Thoru Pederson, Ph.D.
Associate Vice Provost for Research ..... Gary Schneider, Ph.D.
Associate Vice Provost for Professional Development ..... Robert J. Milner, Ph.D.
Associate Vice Provost for Faculty Affairs ..... Judith Ockene, Ph.D.
Associate Vice Provost for Health Disparities Research ..... **Jeroan Allison, M.D., M.S.**

School of Medicine Administrative Staff

Dean ..... Terence R. Flotte, M.D.
Assistant Dean for Administration, Chief of Staff ..... Lisa B. Beittel
Senior Associate Dean for Educational Affairs ..... Michele P. Pugnaire, M.D.
Senior Associate Dean for Clinical Affairs and Associate Dean for Graduate Medical Education ..... **Deborah M. DeMarco, M.D.**
Senior Associate Dean for the UMass Memorial Medical Group ..... **Eric Dickson, M.D.**
Associate Dean for Admissions ..... John Paraskos, M.D.
Associate Dean for Student Affairs ..... Mai-Lan Rogoff, M.D.
Associate Dean for Continuing Education (Interim) and
Associate Dean for Allied Health and Interprofessional Education ..... Michael Kneeland, M.D.
Associate Dean, Berkshire Medical Center ..... Martin Broder, M.D.
Associate Dean, Saint Vincent Hospital ..... Octavio Diaz, M.D.
Associate Dean, Milford Regional Medical Center ..... William Muller, M.D.
Associate Dean, Veteran Affairs ..... Neil J. Nusbaum, M.D.
Assistant Dean for Graduate Medical Education ..... **Anne Larkin, M.D.**
Assistant Dean, Academic Achievement ..... Mark E. Quirk, Ed.D
Assistant Dean, Student Advising ..... Michael C. Ennis, M.D.
Director of Animal Medicine ..... Jerald Silverman, D.V.M.

Department Chairs and Directors

Basic Sciences

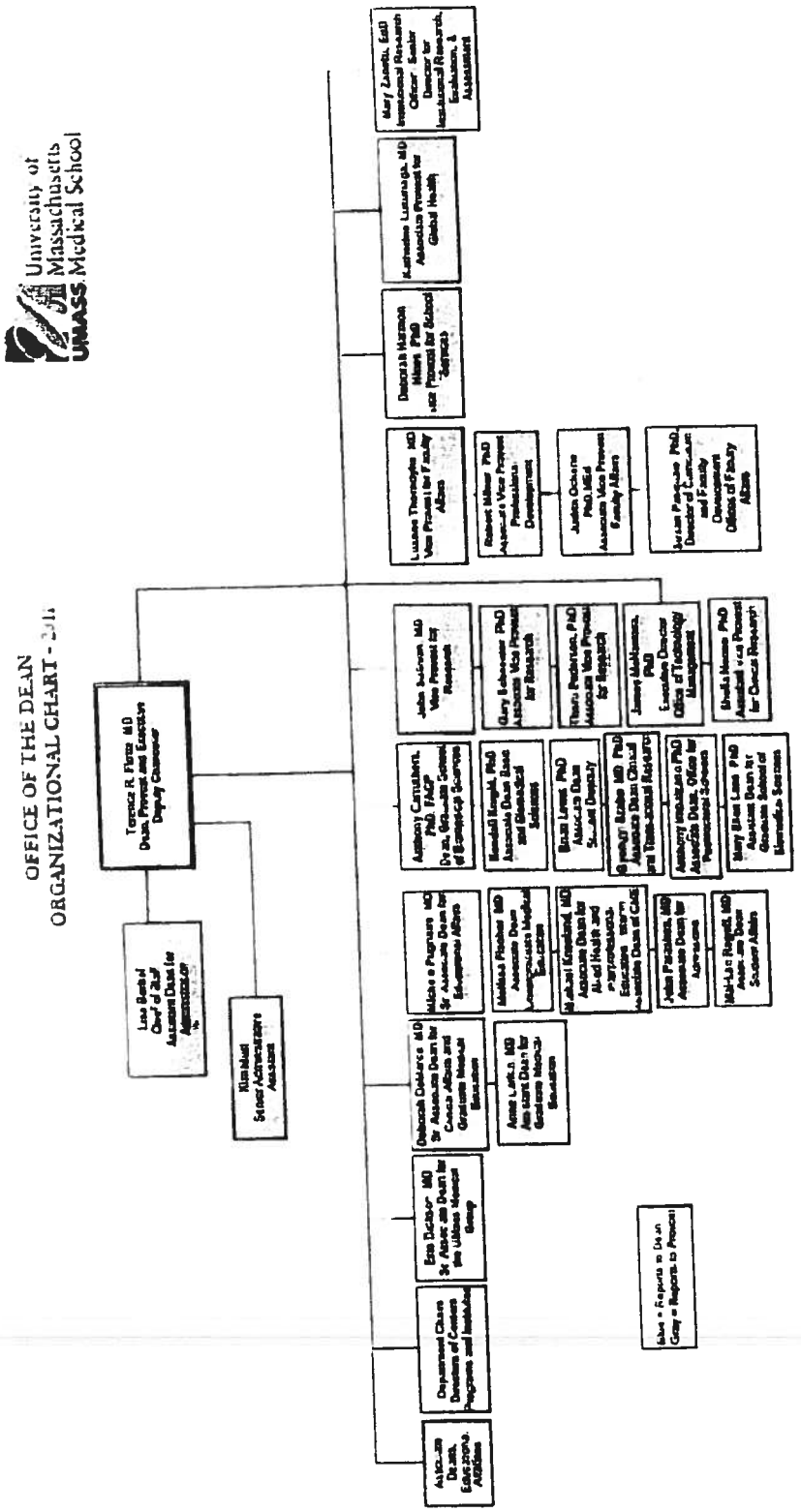
Biochemistry and Molecular Pharmacology ..... C. Robert Matthews, Ph.D.
Cancer Biology ..... Arthur Mercurio, Ph.D. (Interim)
Cell Biology ..... Gary S. Stein, Ph.D.
Microbiology and Physiological Systems ..... Allan S. Jacobson, Ph.D.
Molecular Medicine ..... Michael P. Czech, Ph.D.
Neurobiology ..... Steven M. Reppert, M.D.
Program in Gene Function and Expression ..... Michael Green, M.D., Ph.D.
Gene Therapy Center ..... Guangping Gao, Ph.D.
Program in Bioinformatics and Integrative Biology ..... Zhiping Weng, Ph.D.
RNA Therapeutics Institute ..... Victor Ambros, Ph.D., Craig Mello, Ph.D., Melissa Moore, Ph.D. and Phillip Zamore, Ph.D.
Program in Systems Biology ..... **Job Dekker, Ph.D. and Marian Walhout, Ph.D.**
Quantitative Health Sciences ..... **Catarina I. Kiefe, M.D., Ph.D.**

Clinical Sciences

Anesthesiology ..... Stephen O. Heard, M.D.
Emergency Medicine ..... Greg Volturo, M.D.
Family Medicine and Community Health ..... Daniel H. Lasser, M.D., M.P.H.
Medicine ..... Robert W. Finberg, M.D.
Neurology ..... Robert Brown, M.D., D. Phil.
Obstetrics and Gynecology ..... Julia Johnson, M.D.
Ophthalmology ..... **(Interim) George Asdourian, M.D.**
Orthopedics and Physical Rehabilitation ..... David Ayers, M.D.
Otolaryngology ..... **(Interim) Daniel Kim, M.D.**
Pathology ..... Kenneth L. Rock, M.D.
Pediatrics ..... Marianne E. Felice, M.D.
Psychiatry ..... Douglas M. Ziedonis, M.D., M.P.H.
Radiation Oncology ..... Thomas FitzGerald, M.D.
Radiology ..... **(Interim) Joseph Ferrucci, M.D.**
Surgery ..... Demetrius Litwin, M.D., M.B.A.

Graduate School of Biomedical Sciences Administrative Staff

Dean, Graduate School Biomedical of Biomedical Sciences ..... Anthony Carruthers, Ph.D.
Associate Dean for Basic Biomedical Sciences ..... Kendall Knight, Ph.D.
Associate Dean for Student Diversity ..... Brian Lewis, Ph.D.
Associate Dean for Clinical Translational Research ..... Gyongyi Szabo, M.D., Ph.D.
Associate Dean for Clinical and Population Health Research ..... Carole Upshur, Ed.D.
Associate Dean, Office for Postdoctoral Scholars ..... Anthony Imbalzano, Ph.D.
Assistant Dean for GSBS Curriculum ..... **Mary Ellen Lane, Ph.D.**


University of Massachusetts
UMASS Medical School
OFFICE OF THE DEAN
ORGANIZATIONAL CHART - 201

Dean's Staff Information

As of 12-01-2011

Name	Appoint Year	Title	% Effort to Administrative Support of the School
Mark Quirk, EdD	1989	Assistant Dean for Academic Achievement	30
Mai-Lan Rogoff, MD	1993	Associate Dean for Student Affairs	30
John Paraskos, MD	1999	Associate Dean for Admissions	20
Deborah DeMarco, MD	2001	Associate Dean for Graduate Medical Education	55
Michael Ennis, MD	2003	Assistant Dean for Student Advising	10
Daniel Lasser, MD, MPH	2005	Associate Dean for Commonwealth Medicine	5
Michele Pugnaire, MD	2007	Senior Associate Dean for Educational Affairs	80
Gyongyi Szabo, MD, PhD	2008	Associate Dean for Clinical and Translational Sciences	15-20
Lisa Beittel, MBA	2008	Assistant Dean for Administration	95
Michael Kneeland, MD, MPH	2008	Associate Dean for Allied Health and Interprofessional Educational Programs	50
Melissa Fischer, MD, MEd	2009	Associate Dean for Undergraduate Medical Education	80
Martin Broder, MD	2009	Associate Dean for Medical Education for Berkshire Medical Center	25
Octavio Diaz, MD	2009	Associate Dean for Medical Education for St. Vincent Hospital	10-15
William Muller, MD	2009	Associate Dean for Medical Education for Milford Regional Medical Center	5
Thomas Houston, MD	2009	Assistant Dean for Continuing Medical Education/Medical Education Research	15
Michael Kneeland, MD, MPH	2010	Interim Associate Dean for Continuing Medical Education	50
Neil Nusbaum, MD	2010	Associate Dean of Veterans Affairs	10-20
Deborah DeMarco, MD	2011	Senior Associate Dean for Clinical Affairs	20
Anne Larkin, MD	2011	Assistant Dean for Graduate Medical Education	20
Eric Dickson, MD	2011	Senior Associate Dean for the UMass Memorial Medical Group	10
Kendall Knight, PhD	2011	Associate Dean, Graduate School of Biomedical Sciences	30

GRADUATE PROGRAM ENROLLMENT

AY 10-11		
Department or Program	**Master's Students**	**Doctoral Students**
Graduate School of Biomedical Sciences	5	439
Graduate School of Nursing	144	50

NUMBER OF RESIDENTS BY SPECIALTY

AY 09-10				
Specialty of Training Program	PGY-1 Residents	Total # of Residents	# of Clinical Fellows (in ACGME/RCPSC/ CFPC-accredited programs)	# of Clinical Fellows (in Non-ACGME/RCPSC/ CFPC-accredited programs)
Anesthesiology	4	28		
Anesthesiology Critical Care			2	
Child Psychiatry	0	4		
Dermatology	0	9		
Procedural Dermatology			1	
Emergency Medicine	12	36		
Emergency Medicine Toxicology			4	
Emergency Medicine Ultrasound				2
Emergency Medicine Disaster				2
Family Medicine (Fitchburg)	5	15		
Family Medicine (Worcester)	12	37		
Family Medicine Sports			2	
Internal Medicine	37	94		
Cardiology			18	
Cardiology EPS			2	
Cardiology Interventional			2	
Endocrinology			4	
Gastroenterology			8	
Geriatrics			1	1
Infectious Disease			6	
Hematology Oncology			6	
Pulmonary Critical Care			6	
Renal			6	
Rheumatology			4	
Medicine Pediatrics	4	16		
Neurology	0	12		
Neurophysiology			1	
Vascular Neurology			2	
Neuroimmunology				
Ob-Gyn	5	20		2
Female Pelvic and Reconstruction				
Orthopedics	5	20		1
Orthopedic Sports			2	
Orthopedic Hand			2	
Orthopedic Physiatry				
Pathology	4	15		1
Cytopathology			1	
Dermatopathology			1	
Hematopathology			1	

AY 09-10				
Specialty of Training Program	PGY-1 Residents	Total # of Residents	# of Clinical Fellows (in ACGME/RCPSC/ CFPC-accredited programs)	# of Clinical Fellows (in Non-ACGME/RCPSC/ CFPC-accredited programs)
Surgical pathology			2	
Pediatrics	8	26		
Neonatology			3	
Plastic Surgery	2	6		
Plastic Surgery Fellow			4	
Preventive Medicine	0	4		
Psychiatry	6	22		
Addiction Psychiatry			1	
Forensic Psychiatry			1	
Psychiatry Neuro	1	5		
Radiology	0	16		
Vascular Intervention Radiology			1	2
Abdominal Imaging*				
Neuroradiology			1	
MRI				2
Surgery	12	36		
Breast Surgery				1
Minimally Invasive Surgery				1
Vascular Surgery	1	3		
Vascular Surgery Fellow			2	
Dental	3	3		

DIVERSITY STATISTICS

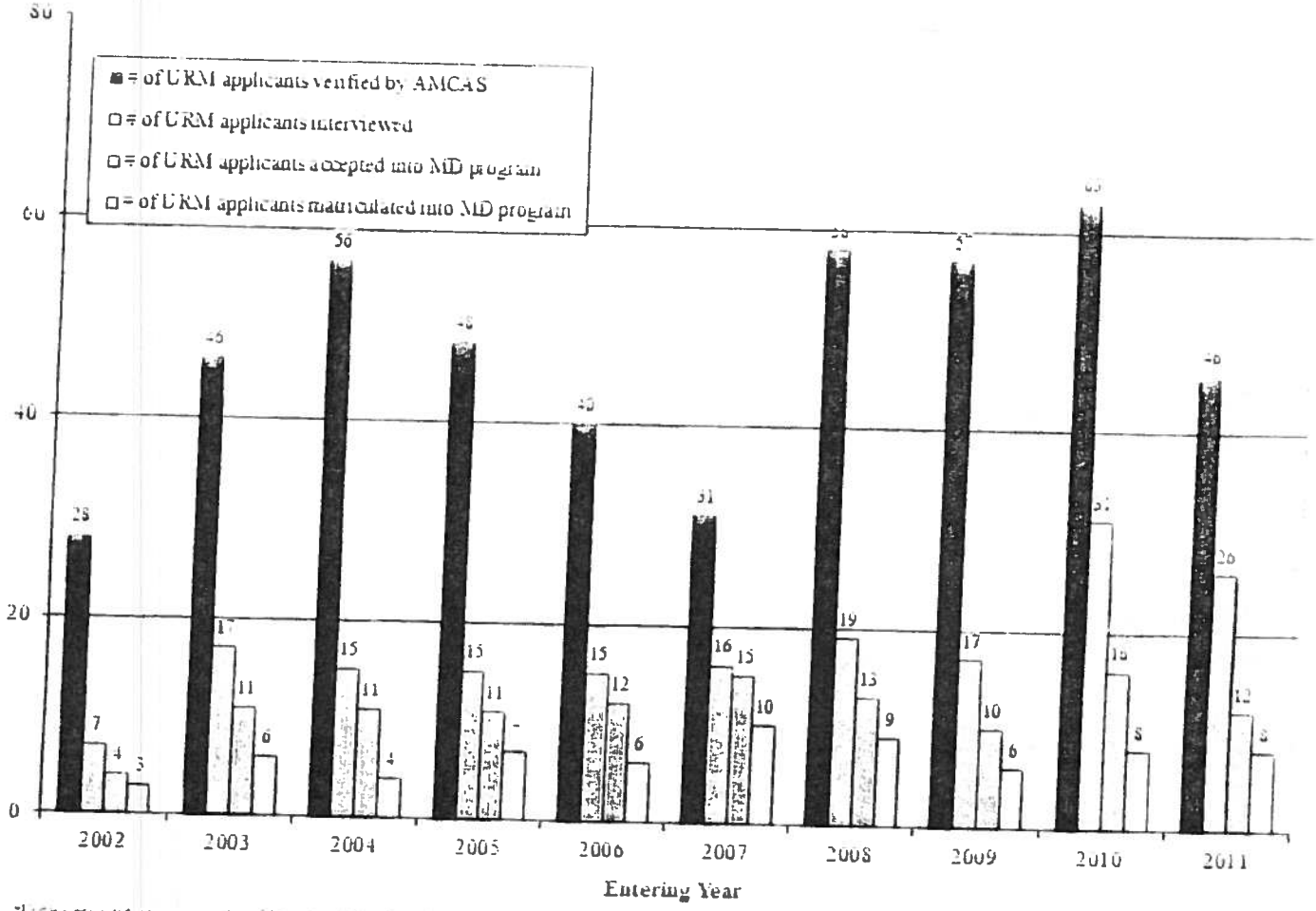
Workforce data reported on this table reflects data on November 8, 2011

Category	Group	All SOM Students	First-Year Students	Faculty	Staff			
				Faculty	Executive/ Management	Professional/ Non-Faculty	GME Residents	Non-Professional
TOTAL		100% (487/487)	100% (128/128)	100% (1,201/1,201)	100% (78/78)	100% (1,971/1,971)	100% (557/557)	100% (1,711/1,711)
GENDER	Male	46.00% (224/487)	43.75% (56/128)	60.62% (728/1,201)	53.85% (42/78)	32.01% (631/1,971)	49.73% (277/557)	34.60% (592/1,711)
	Female	54.00% (263/487)	56.25% (72/128)	39.38% (473/1,201)	46.15% (36/78)	67.94% (1,339/1,971)	50.09% (279/557)	65.40% (1,119/1,711)
	Undeclared	0%	0%	0%	0%	.05% (1/1,971)	.18% (1/557)	0%
RACE/ ETHNICITY/ NATIONALITY	African American	4.93% (24/487)	3.13% (4/128)	1.83% (22/1,201)	2.56% (2/78)	3.96% (78/1,971)	2.69% (15/557)	7.89% (135/1,711)
	American Indian	.21% (1/487)	.78% (1/128)	.08% (1/1,201)	1.28% (1/78)	.41% (8/1,971)	.18% (1/557)	.41% (7/1,711)
	Asian	16.02% (78/487)	21.09% (27/128)	20.07% (241/1,201)	0%	16.24% (320/1,971)	24.78% (138/557)	8.94% (153/1,711)
	Hawaiian	0%	0%	2.50% (30/1,201)	1.28% (1/78)	.05% (1/1,971)	0%	0%
	Hispanic	2.46% (12/487)	3.91% (5/128)	2.50% (30/1,201)	1.28% (1/78)	3.55% (70/1,971)	4.49% (25/557)	5.96% (102/1,711)
	White	76.39% (372/487)	71.09% (91/128)	75.52% (907/1,201)	94.87% (74/78)	75.80% (1,494/1,971)	67.86% (378/557)	76.80% (1,314/1,711)
AGE (Ranges)	20-29	87.47% (426/487)	94.53% (121/128)	.25% (3/1,201)	0%	7.00% (138/1,971)	42.91% (239/557)	17.88% (306/1,711)
	30-39	11.50% (56/487)	5.47% (7/128)	21.32% (256/1,201)	5.13% (4/78)	32.42% (639/1,971)	50.63% (282/557)	20.46% (350/1,711)
	40-49	1.03% (5/487)	0%	33.56% (403/1,201)	21.79% (17/78)	26.13% (515/1,971)	5.75% (32/557)	25.13% (430/1,711)
	50-59	0%	0%	29.98% (360/1,201)	52.56% (41/78)	25.42% (501/1,971)	.72% (4/557)	25.48% (436/1,711)
	60 +	0%	0%	14.90% (179/1,201)	20.51% (16/78)	9.03% (178/1,971)	0%	11.05% (189/1,711)

DIVERSITY STATISTICS (cont.)

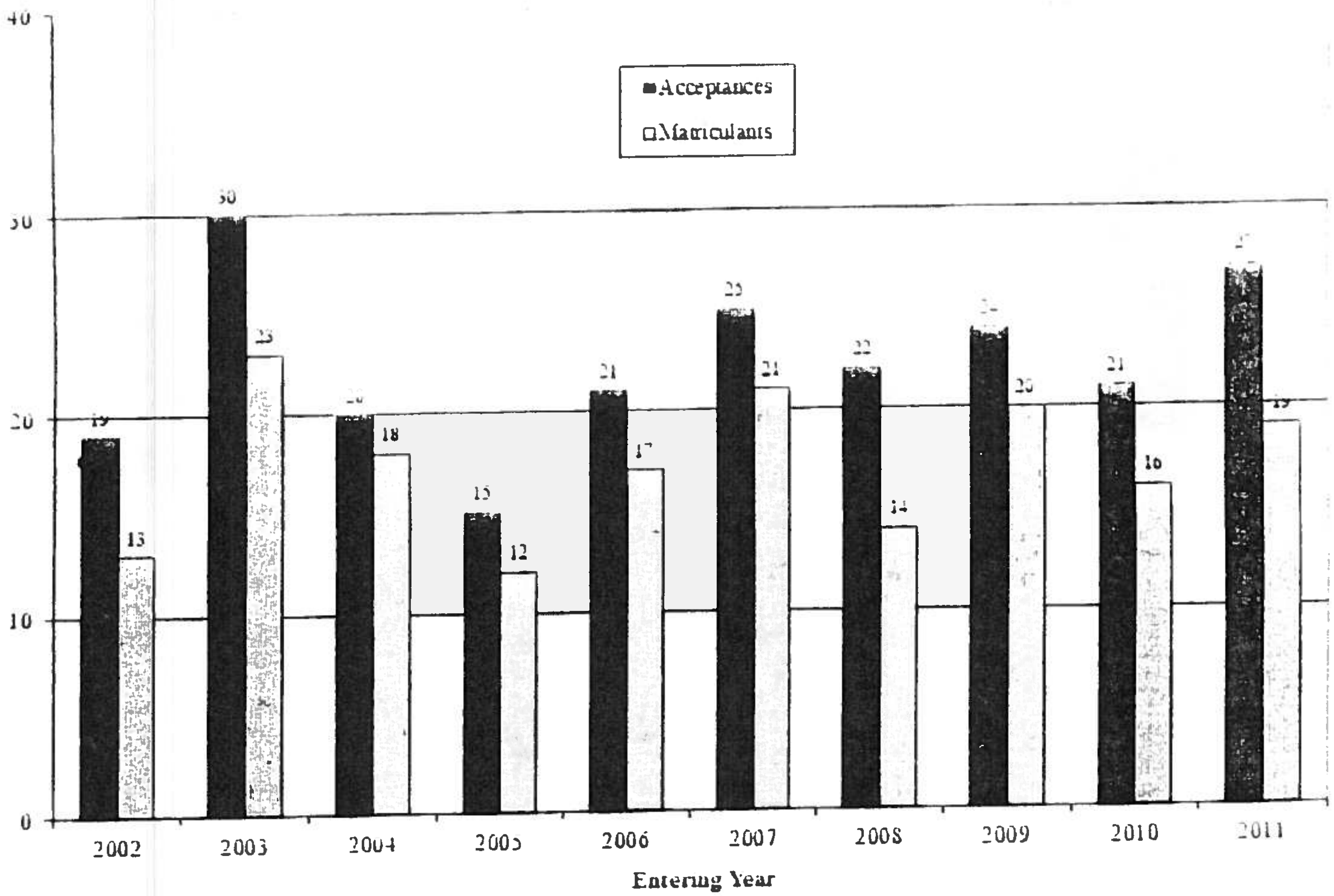
tegory	Group	All SOM Students	First-Year Students	Faculty	Staff			
					Executive/ Management	Professional/ Non-Faculty	GME Residents	Non-Professional
CIO-ECONOMIC STATUS	Below Fed Poverty Level	6.16% (30/487)	7.03% (9/128)	N/A				
	Above Fed Poverty Level	93.84% (457/487)	92.97% (119/128)					
TERAN STATUS		.41% (2/487)	0%	2.58% (31/1,201) *(self-reported)*	2.20% (95/4,317) *(self-reported)*			
UCATIONAL CKGROUND	First Generation College	14.58% (71/487)	12.50% (16/128)	N/A				
VIRONMENTAL CTORS	Rural Communities	2.36% (11/467)	1.56% (2/128)					

Under-Represented Minority (URM) Applicants

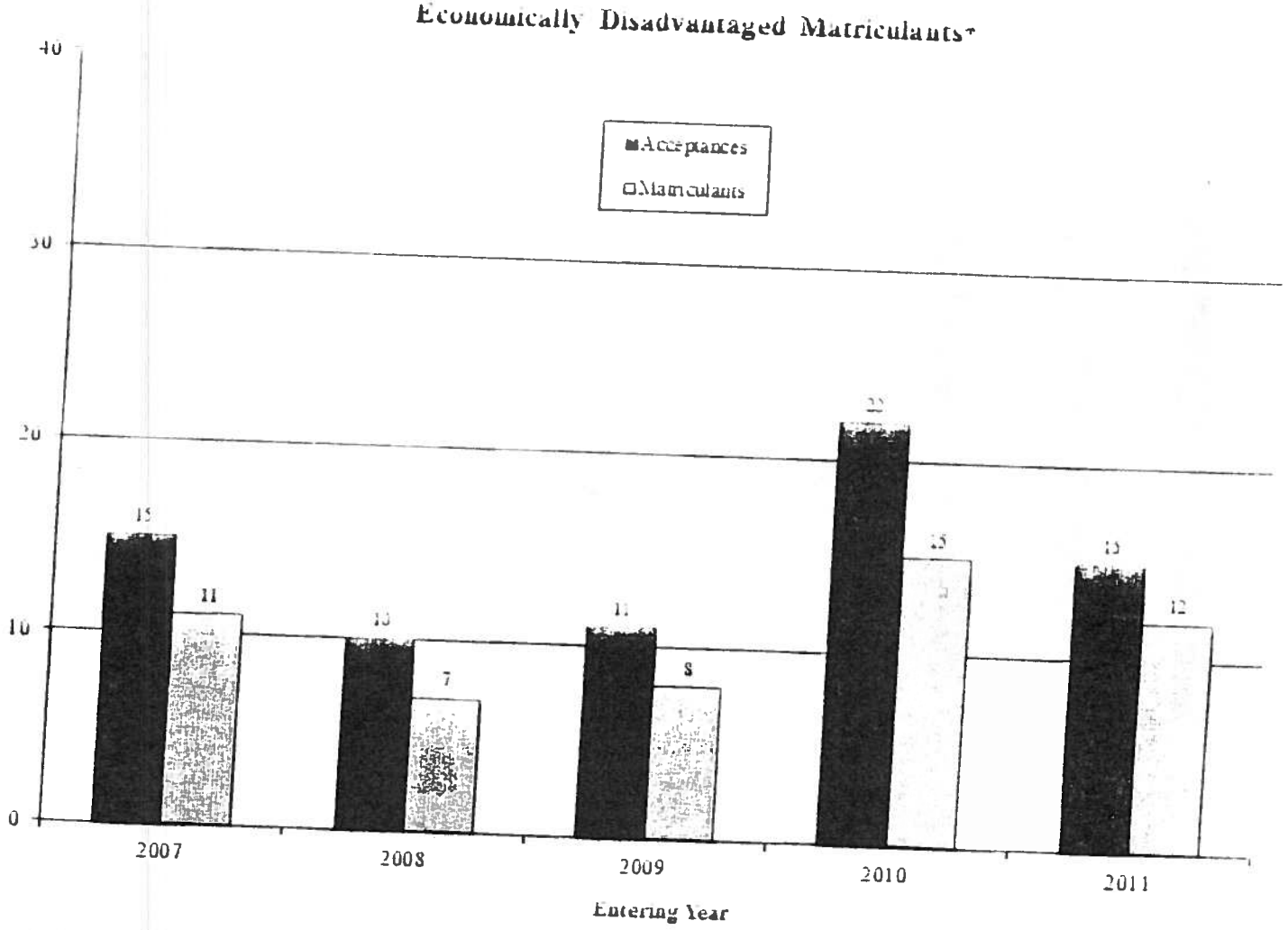


*Under-represented minorities include African-American, Native American/Alaskan Native, Native Hispanic/Mexican Chicano, and Hispanic/Puerto Rican.
Graph produced by the Office of Institutional Research, Evaluation, and Assessment - OIEA (last updated 1.26.12)

First Generation College Matriculants*

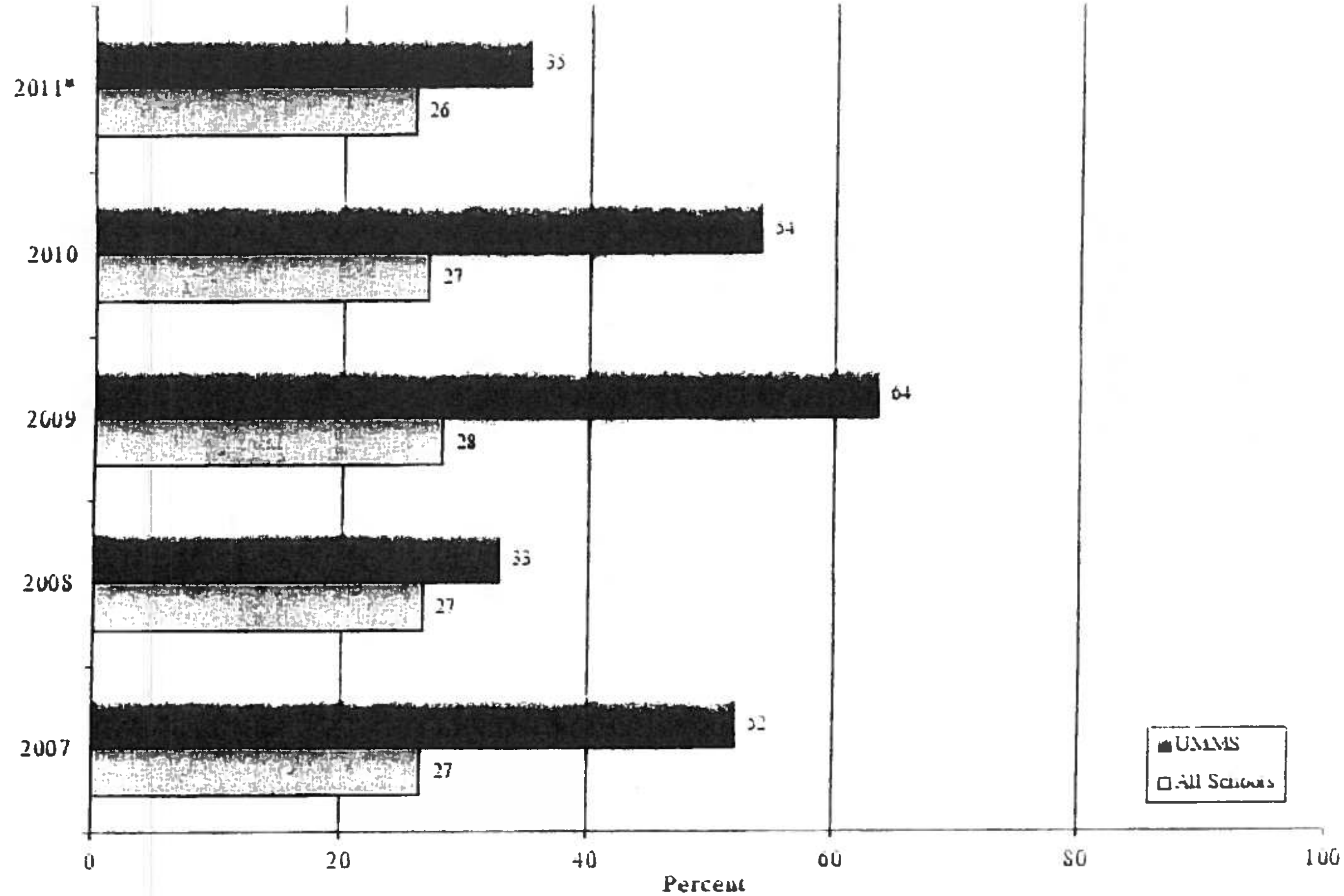


*First generation college, as defined by AMCAS refers to neither parent of student graduated from a four-year college.
Graphs produced by the Office of Institutional Research, Evaluation, and Assessment - OEA (last updated 1/26/12).

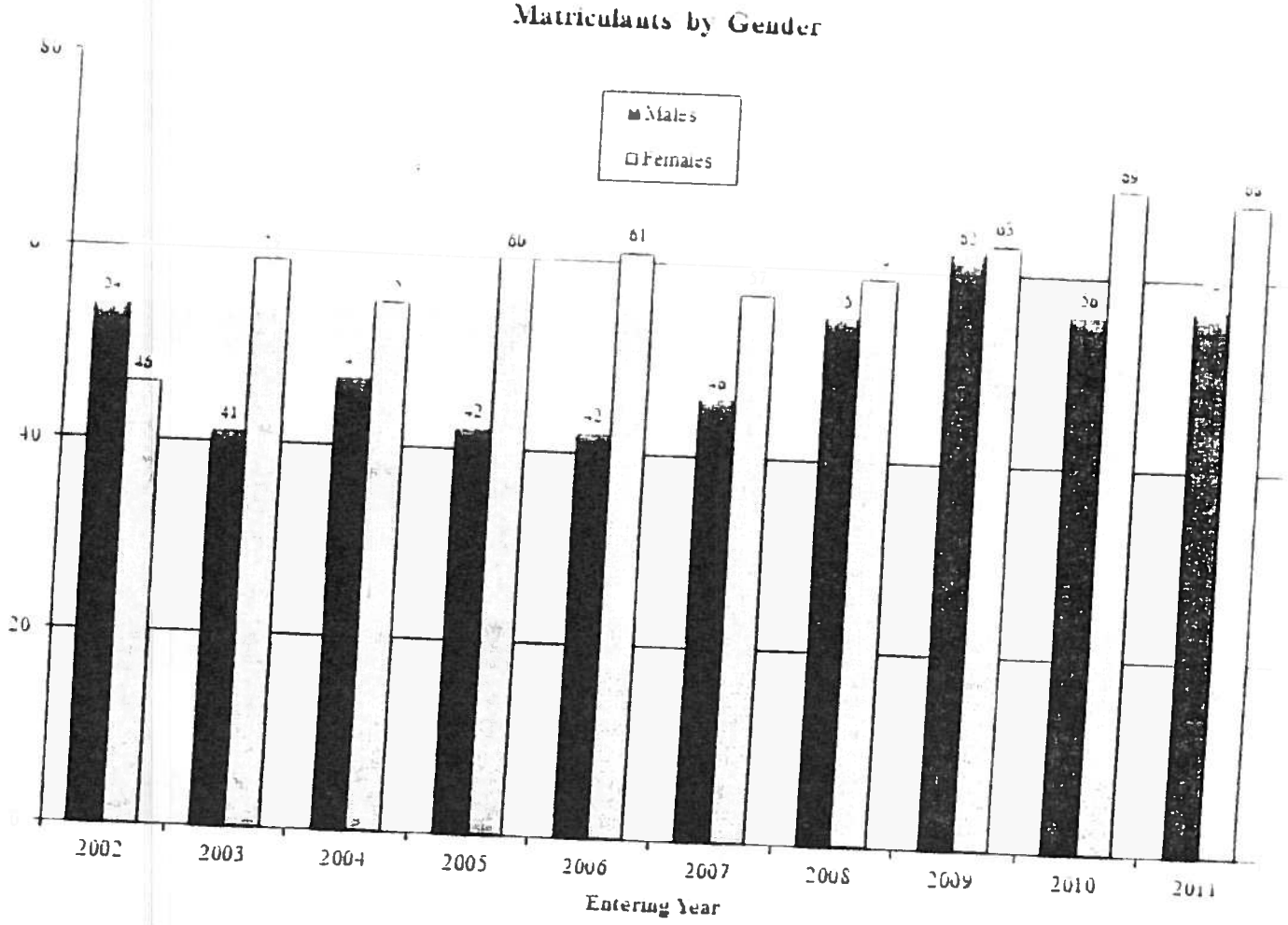


*Economically disadvantaged, as defined by Federal Register, is family income equal to or greater than federal guidelines for low income (1.5x poverty).
Graphs produced by the Office of Institutional Research, Evaluation, and Assessment - OEA (last updated 1-25-12)

Learned another language in order to improve communication with patients
AAMC Graduation Questionnaire



*Response rates: GQ UMMS=65%, n=74, GQ All Schools=78%, n=13,461.
Graphs produced by the Office of Institutional Research, Evaluation, and Assessment - OIEA (last updated 1-26-12)



Graph produced by the Office of Institutional Research, Evaluation, and Assessment - OIEA (last updated 1 26 12)

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Engagement in GLBT Voluntary Activities

Activity	Estimated number of participants	2007	2008	2009	2010	2011
Lecture - Healthcare for the Transgender	Unknown	10 17 2007				
Movie Night - Traveling Through	Faculty, Staff, & Students: 12		2 26 2008			
Lecture - Medical Aspects of Treating Transgender Patients	Faculty, Staff, Students, & Community: 100		4 28 2008			
Transgender Health Dinner	Faculty: 10 Students: 20		5 16 2008			
Panel discussion - Aging in America: The Care of LGBT Elders	Faculty Staff, Students, & Community: 60			2 5 2009		
A weekend for LGBTQ Med Students & Allies in the Northeast to network for personal & professional support	Unknown				5 8-5/9/2010	
Worcester Pride Parade	Faculty, Staff, & Students: 15-20 each year		9 14 2008	9 19 2009	9 11 2010	9 17 2011
Boston Pride Parade	Faculty, Staff, & Students: 10-15 each year				6 12 2010	6 11 2011
Improving Care for GLBTQ Communities	Staff & Students: 25				4 15 2010	
GLBTA Group gathering	Faculty, Staff, & Students: 19					4 20 2011
SAFE HOME VISIT Tour	Faculty & Staff: 7 Community Children: 12					4 14 2011
GEN SILENT Documentary	Faculty, Staff, Students, & Community: 100					4 15 2011
Distribution of "Safe Space" stickers throughout UNMS departments	Unknown	Ongoing				
GLBT Committee	Members Faculty & Staff: 17 Students: 2	Committee meets once a month during academic year				

DEOO data provided by Patricia Gura 11 30 11
Table compiled by Office of Institutional Research, Evaluation, and Assessment 2 12

University of Massachusetts Medical School

Financial Aid Stratified by Environmental Factors[1]
All vs. Disadvantaged Students[2]

Admit Year	Group	N	Number Receiving Financial Aid	Percent Receiving Financial Aid	Number Receiving Institutional Gift Aid[3]	Percent Receiving Institutional Gift Aid[3]	Average Amount of Institutional Gift Aid[3]
2007	All Students	104	98	94.2%	31	31.6%	$11,333
	Disadvantaged Students	29	27	93.1%	19	70.4%	$11,592
2008	All Students	114	104	91.2%	40	38.5%	$9,343
	Disadvantaged Students	26	26	100.0%	16	61.5%	$11,233
2009	All Students	125	120	96.0%	45	37.5%	$12,809
	Disadvantaged Students	29	29	100.0%	20	69.0%	$11,200
2010	All Students	125	116	92.8%	52	44.8%	$13,872
	Disadvantaged Students	28	27	96.4%	23	85.2%	$14,553
2011	All Students	125	118	94.4%	57	48.3%	$14,004
	Disadvantaged Students	30	30	100.0%	20	66.7%	$16,609

[1] *Financial aid is awarded based on family income; however, UMMS tracks these additional environmental factors to inform future policy.*

[2] *Disadvantaged students include economically disadvantaged, educationally disadvantaged first generation college, family, home in rural town, and/or under-represented minority.*

[3] *Institutional Gift Aid includes all institutionally controlled gift aid, including Tuition Waivers and Scholarships for Disadvantaged Students.*

Financial Aid data provided by Betty Grover 12.6.2011
Table compiled by Office of Institutional Research, Evaluation, and Assessment, 1.30.12

University of Massachusetts Medical School

Financial Aid Stratified by Environmental Factors[1]

All vs. Under-Represented Minority Students[2]

Admit Year	Group	N	Number Receiving Financial Aid	Percent Receiving Financial Aid	Number Receiving Institutional Gift Aid[3]	Percent Receiving Institutional Gift Aid[3]	Average Amount of Institutional Gift Aid[3]
2007	All Students	104	98	94.2%	31	31.6%	$11,333
	URM Students	10	10	100.0%	7	70.0%	$13,877
2008	All Students	114	104	91.2%	40	38.5%	$9,345
	URM Students	9	9	100.0%	3	33.3%	$10,434
2009	All Students	125	120	96.0%	45	37.5%	$12,809
	URM Students	6	6	100.0%	5	83.3%	$13,075
2010	All Students	125	116	92.8%	52	44.8%	$13,872
	URM Students	8	8	100.0%	7	87.5%	$15,700
2011	All Students	125	118	94.4%	57	48.3%	$14,064
	URM Students	8	8	100.0%	8	100.0%	$16,644

[1] Financial aid is awarded based on family income, however UMMS tracks these additional environmental factors to inform future policy.

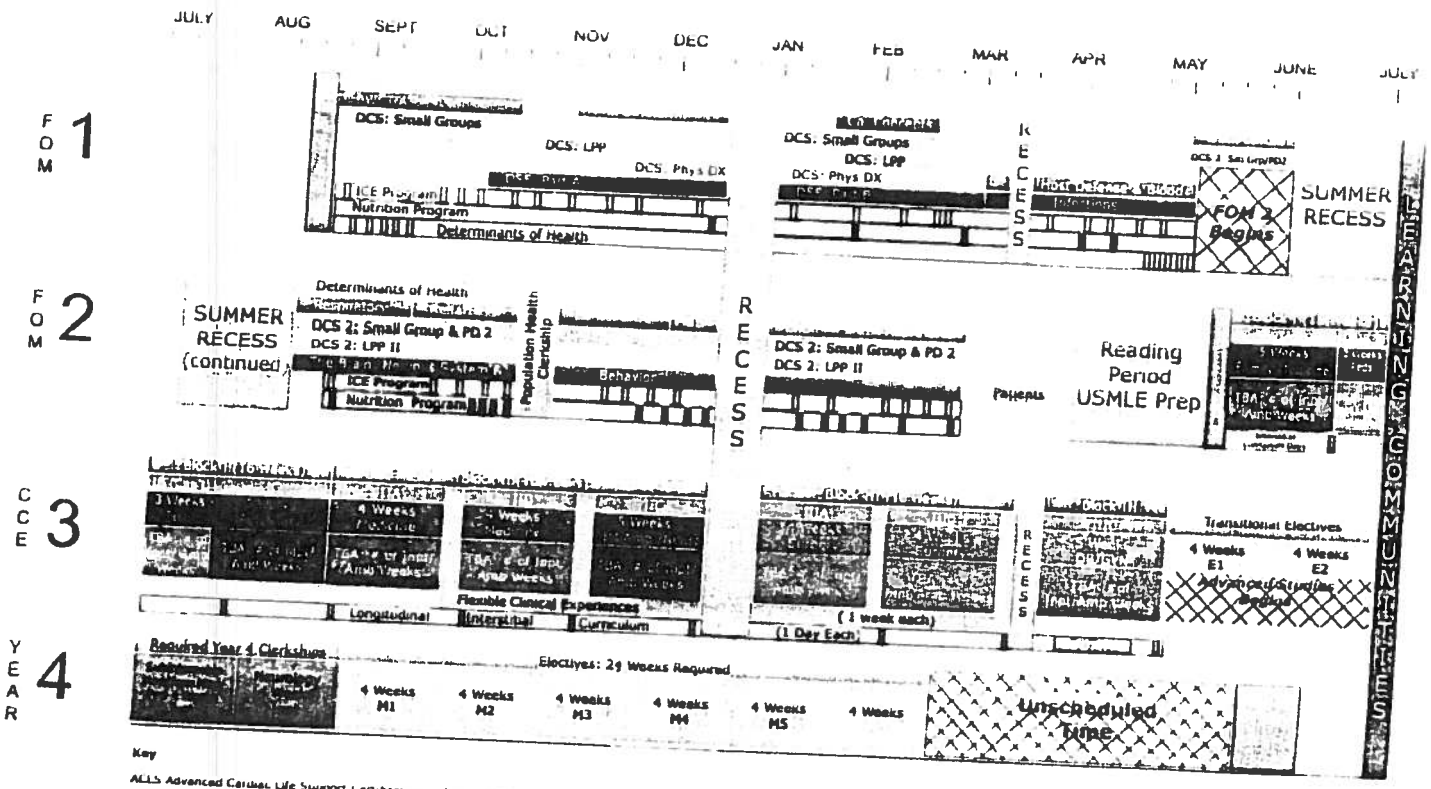
[2] Under-represented minorities include African-American, Native American/Alaskan, Hawaiian Native, Hispanic-Mexican Chicano and Hispanic-Puerto Rican.

[3] Institutional Gift Aid includes all institutionally controlled gift aid, including Tuition Waivers and Scholarships for Disadvantaged Students.

Financial Aid data provided by Betty Chen on 12-6-2011.
Table compiled by Office of Institutional Research, Evaluation, and Assessment 1-3-12

-End of Section-

School of Medicine Curriculum at a Glance



Key

ACLS Advanced Cardiac Life Support Certification
BMCT Building Working Cells & Tissues
Cardio Cardiovascular
Ca. Cancer Concepts
CCE Core Clinical Experiences
DDH Determinants of Health
DSF Development Structure & Function
DCS Doctoring & Clinical Skills
Endo Endocrine
EOTYA End of Third Year Assessment
GI Gastrointestinal
HDB Host Defense & Blood
Inf Infections
ICE Integrated Case Exercises
LPP Longitudinal Preceptorship Program
M & S Musculoskeletal and Skin
Prin of Pharm Principals of Pharmacology
OSD Organ System Diseases
Repro Reproduction
AS Advanced Studies

*CCE blocks are each 16 weeks and include dedicated time for clerkships, assessments, and intersession curriculum

**Surgery Subspecialty Options (TBA)

Anesthesiology
Cardiac Surgery
Neurosurgery/ENT
Orthopedics
Pediatric Surgery
Plastic Surgery
Transplant Surgery
Trauma Surgery
Urology
Vascular Surgery
Thoracic Surgery

AY 2012-13
(Draft 11.15.11)

EDUCATION PROGRAM OBJECTIVES AND COMPETENCIES

General Competency	Educational Program Objective(s)	Outcome Measure(s)
Professional	Professional Values: The graduate can define what each of the following professional values entails and can explain why each is important in an effective doctor-patient relationship: honesty, altruism, compassion, boundaries, and respect for patients, families and the members of the healthcare team.	Behavior on exams, assignments; presenting clinical information; OSCE; direct observation in both preclinical and clinical settings; praise / concern professionalism incident reports; peer evaluation.
Professional	Standards of Care: The graduate can explain the appropriate standards of care involved in such basic clinical situations as informed consent, surrogate decision making, parental refusal of consent for a child, confidentiality, adverse event reporting, and end-of-life care.	Presenting clinical information; OSCEs; direct observation in both preclinical and clinical settings; praise / concern professionalism incident reports; peer evaluation.
Professional	Ethical reasoning The graduate can describe what is involved in each of the generally accepted ethical principles (e.g., autonomy, beneficence, nonmaleficence, primacy of life, justice) and ethical concepts (fidelity, respect for persons, conflict of interest, scarcity).	Presenting clinical information; OSCEs; direct observation in both preclinical and clinical settings; praise / concern professionalism incident reports; peer evaluation; self-reflection.
Professional	Effective Member of interdisciplinary team: The graduate can explain the roles of health care professionals and consultants and can use these resources as an effective member of an interdisciplinary team.	Presenting clinical information; direct observation in both preclinical and clinical settings; praise / concern professionalism incident reports; peer evaluation.
Professional	Self-Assessment and ongoing learning: The graduate understands the need for lifelong, continuing learning and seeks opportunities to increase personal knowledge and skills. *See also "Physician as Scientist," and "Physician as Person."*	Self-assessment exercises using faculty tools in multiple courses and clerkships; course exercises requiring independent or team-based access of the literature

General Competency	Educational Program Objective(s)	Outcome Measure(s)
Scientist	Acquisition of core scientific knowledge: The graduate will demonstrate core knowledge about established and evolving biomedical, clinical and cognate sciences.	Clinical performance on core clerkships; written and oral examinations in basic science courses and clinical clerkships; OSCEs; performance on USMLE steps 1, 2.
Scientist	Understanding of the scientific method: The graduate will demonstrate an understanding of the scientific method as an iterative process that can be used in acquiring new information.	Written and oral examinations in the basic science courses and clinical clerkships; performance in laboratory-based educational experiences; presentations of written or oral journal critiques (new), patient presentations; small group discussions.
Scientist	Application of scientific method to patient care and career-long learning: The graduate will apply the scientific method to problem solving in patient care.	preparation and presentations of written or oral journal critiques (new); oral and written case presentation to faculty, fellow students; clinical performance on core clerkships; formal case write-ups; oral cognitive interviews (new).
Communicator	Doctor-patient communication: The graduate will apply core principles, practices and state-of-the-art models in patient/doctor communication by building productive relationships with the patient and when appropriate, with family members.	direct observation in both preclinical and clinical settings (LPP, community clerkship, clinical rotations); OSCE; student self-assessment exercises (new) assessment of written patient education information by faculty and lay people (new).
Communicator	Communication with patients from multiple backgrounds: The graduate understands the impact of families, culture and social systems on the way that patients experience and communicate about illness, responding appropriately to needs and preferences as they arise. *See also "Physician as Professional."*	Direct observation in both preclinical and clinical settings (LPP, community clerkship, clinical rotations); OSCE; student self-assessment exercises (new); assessment of written information provided to patient by faculty and lay people (new).
Communicator	Communication with the healthcare team: The graduate is proficient in communicating with other members of the healthcare team through accurate and complete documentation in the medical record, well-organized case	OSCE; faculty observation; resident observation; peer review (new); student end-of-year student self-assessment (new).

General Competency	Educational Program Objective(s)	Outcome Measure(s)
	presentation and other written and verbal interactions, including assuming the role of a teacher when it is appropriate. *See also "Physician as Professional."*	
Clinical Problem Solver	Patient-centered care: The graduate delivers care that is customized and responsive to individual patients.	Direct observation during clerkships; SP evaluation; patient feedback (new); praise / concern professionalism incident reports.
Clinical Problem Solver	Information gathering: The graduate has developed skills in acquiring and synthesizing information relevant to the patient, and can effectively utilize a variety of sources.	Direct observation during clinical clerkships; OSCEs; SP evaluations; faculty and resident observation; end-of-year student self-assessment (new).
Clinical Problem Solver	Differential diagnosis and management: The graduate uses analytic approaches to formulate differential diagnoses, and develops management plans utilizing patient information, scientific evidence, and clinical judgment. *See also, "Physician as Scientist."*	OSCE; faculty and resident observation; end-of-year student self-assessment (new); USMLE step 2.
Clinical Problem Solver	Technical Skills: The graduate understands the rationale for and can effectively perform selected medical procedures.	faculty and resident observation; OSCE; SP feedback; simulation exercises (new) including ACLS; end-of-year student self-assessment (new); USMLE step 2 (future).
Clinical Problem Solver	Systems of care: The graduate understands various systems of care, and the importance of cooperation and coordination of efforts with other health professionals to enhance continuity of care, safety, and reliability. He/she counsels and negotiates systems of care effectively with patients and their families, and has a basic knowledge of the processes essential for quality improvement at the systems level.	Faculty observation in preclinical courses (PPS, LPP) and clinical clerkships; OSCEs that include integration of social issues into treatment planning; other simulation exercises / exams (new) resident observation; evaluation by other team members.
Clinical Problem Solver	Informatics: The graduate understands uses of information	Reports or other exercises requiring searches or use of online databases in preclinical

General Competency	Educational Program Objective(s)	Outcome Measure(s)
	technology to increase the efficiency and effectiveness of health care, and incorporates it into his/her daily practice. *See also "Physician as Communicator."*	courses; patient write-ups; faculty observation; resident observation.
Patient and Community Advocate	Advocacy: The graduate is developing expertise in helping individual patients in need and in elevating the health of populations.	Poster presentation and faculty observation in Community Medicine clerkship; faculty observation on clinical rotations; evaluation by team members on clinical services.
Patient and Community Advocate	Community Education: The graduate understands the importance of educating the entire community about health issues. He/she is beginning to acquire the knowledge and communication skills necessary to become an effective educator. *See also "Physician as Scientist."*	Faculty observation in both preclinical courses and clinical clerkships; resident observation; peer review (new); lay person feedback (new).
Patient and Community Advocate	Volunteerism: The graduate understands the physician's obligation to contribute to the larger community. He/she shows personal motivation by seeking opportunities to donate time and expertise to projects that enhance the well-being of others.	Narratives from faculty aware of these activities; student enrollment data in volunteer activities; summary of extracurricular activities in Dean's Letter; end-of-year student self-assessment (new). *Note: the number and selection of specific activities remains the choice of the student.*
Person	Self-Awareness: The graduate has a unique ability to see himself/herself as others see him or her. The graduate also understands his/her self-motivation and limitations and values personal growth.	Evaluation of PPS and clerkship small group discussions; end-of-year student self-assessment (new); feedback from SPs.
Person	Well-being: The graduate recognizes own reactions to difficult situations and understands how these personal responses may affect his/her life and work.	Participation in enrichment electives such as End of Life and Creative Writing; Clerkship OSCEs; end-of-year student self-assessment (new).

General Competency	Educational Program Objective(s)	Outcome Measure(s)
Person	Relationships: The graduate participates in productive relationships with groups and individuals.	End-of-year student self-assessment (new); evaluation of PPS discussion and Interviewing skills; end of 3rd year and clerkship OSCEs; evaluation by team members and peers in ongoing small group activities, including medical teams.

Family Medicine	Medicine		Pediatrics	Psychiatry
Abnormal Pap Smear	Abdominal Pain	Health Maintenance	Behavior Concern	Angry or Potentially Violent
Anxiety	ABG	Heart Failure	Behavioral Counseling	Anxiety
Chest Pain	Acute Mental Status Change	HIV Infection	Central Nervous System Problem	Cognitive MSE
Cold & Allergy Symptoms	Acute Myocardial Infarction	Hypertension	Chronic Medical Problem	Depression and/or Mania
Depression and/or Mania	Anemia	Kidney / Renal Disease	CXR	Initial Diagnostic History
Domestic Violence Screening	Cancer	Liver Disease	Dermatologic Problem	Med Side Effect Screen
Dysuria	Chest Pain	Low Back Pain	Development Concern	Preventive Care Counseling
Ear, Nose, and Throat Problem	Cold & Allergy Symptoms	NGT/Nasogastric Tube Placement	Developmental Screening	Progress Note
EKG	Cough	Nosocomial Infections	Emergent Clinical Problem	Psychosis
Extremity / Joint Pain	Depression and/or Mania	Nutrition / Weight Concern	Fever	Substance Use Disorder
Gastroesophageal Reflux (GERD)	Diabetes	Pneumonia	Gastrointestinal Tract Problem	Suicidal Ideation or Attempt
Headache	Dyslipidemias	Procedure	Growth Concern	Talk to Outpatient Provider
Health Maintenance	Dysuria	Shortness Of Breath	Health Maintenance-Adolescent	
Lab Data	Ear, Nose, and Throat Problem	Skin Lesion / Rash	Health Maintenance-Infant	**Neurology**
Low Back Pain	End of Life Care/Discussion	Substance Abuse	Health Maintenance-Newborn	Confusion
Pap Smear	Extremity / Joint Pain	Venous Thromboembolism / PE	Health Maintenance-School aged	Dementia
Shortness Of Breath	Fever		Health Maintenance-Toddler	Epilepsy
Vaginitis / Vulvitis	Fluid/ Lyte/ Acid Base Problem		History Taking	Headache
	Geriatric Care		Jaundice	Lumbar Puncture Module
	GI Bleeding		Lab Data	Multiple Sclerosis
			Lower Respiratory Tract Problem	Neurological Exam
			Neurological Exam	Observe an EEG
			Nutrition / Weight Concern	Observe an EMG-NCV
			Professional Skills	Parkinson's Disease
			Upper Respiratory Tract Problem	Seizure
				Stroke

Surgery		OB/GYN	Fam Med SUBI	Peds SUBI
l Pain	Mass	Abnormal Pap Smear	Abdominal Pain	Abdominal Pain
	NGT/Nasogastric Tube Placement	Abnormal Vaginal Bleeding	Chest Pain	Cystic Fibrosis Exacerbation
ne Placement	Nutrition / Weight Concern	Bimanual Exam	EKG	Dehydration
/ Injection	Pelvic Pain	Breast Exam	Fever	Diabetes
vement Disorders	Phlebotomy	Cesarean Section	Follow-up Established Problem	Fever w/out Source in Infant
nous Line Placement	Skin Lesion / Rash	Contraceptive Counseling	Health Maintenance	Malignancy
e	Swallowing Problems	Fetal Heart Tracing (FHT)	Initial Diagnostic History	Pain Management
	Thoracentesis	Menopause/Prolapse/Incontinenc	Lab Data	Respiratory Distress
Violence Screening	Thoracotomy / Thoracoscopy	Pap Smear	Shortness Of Breath	Soft Tissue Infection
	Treatment Plan Counseling	Pelvic Pain	Treatment Plan Counseling	Suicide Attempt
e Care/Discussion	Tube Thoracostomy (Chest Tube)	Postpartum Examination		Wheeze
eal Intubation	Vomiting	Preg./Preconception Planning	Med SUBI	
Established Problem		Prenatal Care	Abdominal Pain	
g		Screening for STDs	Acute Mental Status Change	
		Speculum Exam	Chest Pain	
king		Vaginal Delivery	End of Life Care/Discussion	
n / Heartburn		Vaginitis / Vulvitis	Fever	
g Urinary Catheter			Lab Data	
Consent			Loss of Consciousness/ Syncope	
gnostic History			Pain Management	
aume			Shortness Of Breath	
& Drainage (abscess)			Treatment Plan Counseling	
py				
ny				

SUBJECTS REQUIRED FOR ACCREDITATION

AY 09-10

Topic	Required Course	Elective Course	Preclinical Course(s)	Clinical Clerkship Rotation(s)
Biostatistics	X	X	134	49.5
Communication skills	X	x	83	67
Community health	X	x	91.5	18
Complementary/alternative health care	X	x	4	4
Cultural competence	X	x	29	9
End-of-life care	X	x	14.5	5
Epidemiology	X	x	48.5	12
Evidence-based medicine	X	x	40.5	15
Domestic violence/abuse	X		1	7
Global health issues	X	x	16.5	3.5
Health care financing	X	x	13.5	4
Health care systems	X	x	7	8
Health care quality improvement	X	x	21	4.5
Health disparities	X	x	9	5.5
Human development/life cycle	X		55	20
Human sexual/gender development	X		19	6.5
Human sexuality/sexual functioning	X		6.5	2.5
Medical ethics	X	x	36.5	8.5
Medical genetics	X		107.5	.5
Medical humanities	X	x	2	2

Topic	Required Course	Elective Course	Preclinical Course(s)	Clinical Clerkship Rotation(s)
Medical informatics	X	x	7	9.5
Medical jurisprudence	X	x	13	4.5
Medical socioeconomics	X	x	13	7
Nutrition	X		41	4
Occupational health/medicine	X		8.5	2
Pain management	X		7	6
Palliative care	X	x	5.5	5
Patient safety	X	x	16	9.5
Population-based medicine	X	x	23.5	23
Prevention/health maintenance	X	x	26	18
Rehabilitation/care of the disabled	X	x	8.5	9
Research methods	X	x	16.5	.5
Substance abuse	X	x	3	8

OUTCOMES USED TO DETERMINE

EDUCATIONAL PROGRAM EFFECTIVENESS

x	Results of USMLE :
x	Student scores on internally developed examinations
x	Performance-based assessment of clinical skills (e.g., OSCEs) EOTYA
x	Student responses on AAMC Medical School Graduation Questionnaire
x	Student evaluation of courses and clerkships
x	Student advancement and graduation rates
x	NRMP Match results
x	Specialty choice of graduates
x	Assessment of residency performance of graduates
x	Licensure rates of graduates
x	Specialty certification rates
x	Practice location of graduates
x	Practice type of graduates
	Other: Longitudinal Student Self-Assessment Surveys: End of First , Second, Third and Fourth Year Questionnaires Residents as Teachers Report "One year out" alumni and program directors survey US news and World and Report rankings AAMC national peer-reviewed meetings

USMLE STEP 1 and STEP 2 PERFORMANCE DATA

STEP 1:

Year or Academic Year	Number Examined	Percent Passing	Mean Total Score and S.D.		National Mean Total Score and S.D.	
			Score	S.D.	Score	S.D.
2011 *(preliminary)*	111	95	230	24	225	22
2010	116	91	220	22	222	24
2009	107	93	219	22	221	24
2008	95	98	224	20	221	23
2007	98	98	228	18	222	22

STEP 2 CK:

Year or Academic Year	Number Examined	Percent Passing	Mean Total Score and S.D.		National Mean Total Score and S.D.	
			Score	S.D.	Score	S.D.
10/11	97	95	230	21	233	22
09/10	99	96	229	22	230	23
08/09	102	96	234	21	229	23
07/08	101	98	227	22	226	23

STEP 2 CS:

Year or Academic Year	Number Examined	Percent Passing
10/11	97	100
09/10	109	100
08/09	105	100
07/08	101	99

STUDENT ENROLLMENT BY CLASS YEAR

	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
First Year	102	102	103	103	115	125	125
Total	419	412	423	435	445	469	487

Mean MCAT scores for new first-year students

	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Verbal Reasoning	10.40	10.20	10.30	10.30	10.20	10.33	10.40
Physical Sciences	10.40	10.70	10.10	10.30	10.40	10.82	10.80
Biological Sciences	10.60	10.80	10.60	10.60	10.90	11.32	10.90
Writing Sample (Mode)	Q	Q	Q	Q	Q	Q	Q

Mean overall premedical GPA for new first-year medical students

	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Mean overall GPA	3.60	3.64	3.57	3.59	3.64	3.67	3.65

Students who withdrew or were dismissed from the medical school

	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
First-year class	1.0	1.0	1.0	0.0	0.0	0.8	.8
All students	0.5	0.2	0.5	0.0	0.2	0.2	.8

University of Massachusetts
UMASS. Medical School

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Mai-Lan Rogoff, M.D.
Associate Professor
Associate Dean for Student Affairs

November 1, 2009

Re: MSPE1

Dear Training Director,

MSPE1 a member of the Class of 2010 at the University of Massachusetts Medical School in Worcester, Massachusetts, is applying to your program for a house staff position. This Medical Student Performance Evaluation is presented on MSPE1's behalf.

UNIQUE CHARACTERISTICS

MSPE1 graduated *cum laude* from Boston College in 2000 with a Bachelors of Arts in Political Science. During his junior year at Boston College, MSPE1 became certified as an Emergency Medical Technician, and volunteered with Boston College Eagle EMS, a campus EMT service. MSPE1 spent the spring semester of his junior year abroad at the University of Melbourne. MSPE1 did an internship with the Governor's Warrant Task Force, and was granted acceptance into *Pi Sigma Alpha*, the National Political Science Honor Society, for his scholarship in the field of Political Science. Following graduation from Boston College, MSPE1 was hired by Brigham and Women's Hospital to work in the Emergency Department as an Emergency Services Assistant. A year later, he was also hired by the Division of Newborn Medicine at Children's Hospital Boston to work as a Research Assistant in the laboratory of Dr. Gary Silverman. Working for Dr. Silverman, MSPE1 co-authored two scientific papers in the journal *Biochemistry*. In 2001, MSPE1 began work as a teacher, editor and freelance writer for Kaplan Test Prep.

In addition to his academic work in medical school, MSPE1 continued to work as teacher, editor and freelance writer for Kaplan Test Prep during both his medical and graduate school years. He also served as a tutor for the Academic Enrichment Program. Directly following Hurricane Katrina, MSPE1 spent two weeks in Louisiana volunteering as a member of the American Red Cross' Disaster Action Team. He has also volunteered under supervision in a free clinic program in Hudson, Massachusetts.

ACADEMIC HISTORY

MSPE1 entered this medical school in August, 2002 and is expected to receive both the MD and PhD degrees in June, 2010.

Extended/ Enrichment Activities: MSPE1 entered as a member of our combined MD-PhD program; his medical school years were extended in order to complete the PhD portion of his degree program. MSPE1 worked in the laboratory of Dr. Aldo Rossini for his PhD dissertation. There he received three years of independent funding via the American Diabetes Association's Physician-Scientist Training Award. He has published eight scientific articles, four of which he was first author on, and has presented his work at five scientific and clinical symposia.

UMass indicates any grade remediated from 'No Credit' or 'Fail' by an asterisk next to the remediated grade on the transcript. Academic and professionalism concerns, if any, are discussed in context in the body of this letter.

ACADEMIC PROGRESS: PRECLINICAL GRADES

Because our preclinical grades are on an Honors/ Credit/ No Credit grading system, I cannot give you a precise statement of his class standing. However, MSPE1 has been elected to the UMass chapter of the medical school honor society *Alpha Omega Alpha* based on both his academic performance and research/ service contributions. MSPE1 has done very well academically, earning Honors in Human Anatomy, Biochemistry, Mind Brain

Behavior I, Physiology, Nutrition, Biology of Disease, Microbiology, Pharmacology, and Mind Brain Behavior II during his preclinical years. MSPE1 was one of only eight students in his class commended by the Biology of Disease faculty for obtaining Honors in all subject examinations. MSPE1 passed Step I of the U.S. Medical Licensing Examination with a score of 248.

ACADEMIC PROGRESS: CLINICAL GRADES AND NARRATIVES in order taken

Required Clerkship in Surgery: Outstanding
MSPE1 was an extremely energetic, motivated and intelligent student who functioned as an integral member of the surgical team. He was incredibly helpful on daily patient rounds, in floor work, and in the operating room. He functioned at the level of an intern in regards to daily patient management. He knew his patients and their underlying pathophysiology thoroughly, and was able to connect anatomic and physiology principles to daily patient care decisions. He was eager to learn and had an excellent fund of knowledge and clinical reasoning ability. He presented complex cases clearly and was very well prepared with clear evidence of background and literature searches beforehand. He demonstrated genuine compassion towards patients, and developed excellent rapport and trust with them.

Required Clerkship in Internal Medicine: Outstanding
MSPE1 is an excellent third year medical student who did a superb job during his Medicine clerkship at UMass Memorial. He is bright, energetic and articulate. He related superbly to his patients and team members, and went out of his way to be helpful in any way he could. His fund of knowledge and clinical skills were well beyond the level expected for a third year student. He is poised and responds well under pressure. He was an integral member of his ward team, and he was caring and compassionate toward his patients. An intern commented, "MSPE1 is very intelligent, dedicated and highly motivated. He was responsible, dependable and functioned like a subintern." A resident commented, "MSPE1 is an outstanding medical student with an excellent fund of knowledge. He is extremely dedicated to his patients and worked tirelessly for the good of his patients and our team." Another resident commented, "MSPE1 demonstrated strong initiative and sought out new learning opportunities. He also developed excellent rapport with patients and families. They have commented on his compassion and the excellent care that he provided." An attending commented, "MSPE1 is a gifted medical student with a broad fund of knowledge who struck me as extremely intelligent. He writes thorough notes and his oral presentations are flawless. He communicates effectively with peers, patients and staff. He has excellent professional standards and is very pleasant and eager to learn." He will be a superb house officer and physician. Any training program will be fortunate to have him.

Required Clerkship in Obstetrics and Gynecology: Above Expected Performance
MSPE1's primary outpatient preceptor described his strengths as, "Very good application of basic science knowledge to clinical problems. Excellent technical skills." Another preceptor agreed with this assessment, saying, "MSPE1 has a very deep understanding of the underlying pathways that lead to endocrine derangements. Another preceptor with whom MSPE1 worked closely described him as, "A team player with excellent personal skills." His oral presentation at the OSCE earned MSPE1 the comment, "Outstanding presentation skills and outstanding knowledge for the topic."

Required Clerkship in Psychiatry: Outstanding
MSPE1 did his psychiatry clerkship at UMMHC on the adult acute inpatient service, PTC. MSPE1's attending, Dr. Rizos wrote, "Student Dr. MSPE1 was a pleasure to work with, he was always dependable and reliable with all of his patients, as with patients that were not on his team. He is highly articulate, intelligent and functions as a resident and was always enthusiastic about patient care, even with difficult to manage patients. He will be a remarkable asset to the medical profession in whatever specialty he chooses." MSPE1's outpatient preceptor, Dr. Guzofski, wrote, "MSPE1 displayed an ability to relate to a variety of clients in a flexible way, did a good job gathering data and was thoughtful about its implications for diagnosis. He showed curiosity about more advanced differential diagnosis questions." MSPE1's [final written exam demonstrated] an excellent fund of psychiatric knowledge and strong diagnostic and clinical reasoning. MSPE1 showed adequate interpersonal skill on the final observed standardized patient interview. His ability to elicit a pertinent, focused clinical history was excellent, the mental status exam was outstanding, and the diagnostic assessment was outstanding. MSPE1 wrote his final case summary about an 18 year old man with psychosis, suicidal ideation, depressive symptoms and severe social

stressors. The case report was above expected. Particular strengths were noted in mental status exam, case formulation, and use of research to inform treatment. MSPE1 was an active participant in group discussions.

Required Clerkship in Pediatrics: Outstanding
MSPE1 performed at an outstanding level during his Pediatric Clerkship. He started on the inpatient service where his preceptor reported "MSPE1 was the strongest medical student I have personally interacted with all year. His knowledge base was solid and he possessed a passion for understanding disease that motivated all around him. I admired his curiosity and his questions were poised and articulate. He frequently generated discussions during rounds based on evidence/literature he sought independently, that residents and attendings found greatly stimulating. On a personal level, he was incredibly respectful, enthusiastic, dependable, punctual, and direct. Patients and families identified him as their doctor and directed questions toward him during rounds. I truly felt confident in his abilities and entrusted him with the care of his patients, for which he managed almost effortlessly." MSPE1 had an equally strong outpatient rotation. He was found to have a "very mature approach to families and children - thoughtful, humorous, and enthusiastic." He had outstanding communication skills, oral presentations and physical exam skills. He has a strong fund of knowledge and synthesis skills. "It was a great pleasure to work with MSPE1. He is a thoughtful, smart and friendly young man who had excellent rapport with our patients and their families. I would rate his work in outpatient pediatrics as outstanding."

Required Clerkship in Family Medicine: Outstanding
MSPE1 completed his Family Medicine Clerkship at the Family Health Center of Worcester under Dr. Warren Ferguson. There he did very well. He received outstandings in most areas including his approach to learning and responsiveness to feedback. He bonded extremely well with patients. Written documentation was found to be outstanding as was his history taking, ability to analyze data, and his medical knowledgebase. Comments from the faculty included, "always demonstrating enthusiasm and taking initiative, eager to learn and improve, never defensive and able to reflect, wonderful style with patients never judgmental and meets patients where they are at, writes excellent notes efficiently, good problem solving skills and analyzes well, excellent fund of knowledge." To conclude, Dr. Ferguson stated that MSPE1's strengths were "MSPE1 was a pleasure to work with and a big help in the office; he is very knowledgeable, confident, and relaxed."

Elective in Clinical/Research in Oncology (Dana Farber Cancer Inst.): Outstanding
MSPE1 was outstanding in every way. He immediately grasped very complicated concepts in a field that was completely new to him. He presented at our group meeting with great alacrity. His interpersonal skills are outstanding. Based on 4 weeks of work, he is the first author on an abstract submitted to the American Society of Hematology meeting, and I am hopeful that he will finish up a few missing elements and possibly be involved in an additional discovery.

Elective in Clinical Dermatology: Outstanding
MSPE1 was a wonderful asset to our dermatology inpatient and outpatient service for the month. He has both clinical & basic science knowledge that is above what is expected of a medical student. He is participating in a case report write-up to submit this coming fall. He is hardworking and easy to work with. He will be a great dermatologist.

Required Subinternship in Internal Medicine: Outstanding
MSPE1 completed the subinternship in Medicine at the University Campus in September, 2009. Throughout the month it was clear to see MSPE1's enthusiasm for medicine, his strong academic and research background, his interest in evidence-based medicine, and his love of learning. Team members noted that he "excelled at patient interactions and was very thoughtful and caring throughout. He would be regarded [by patients] as a solid intern and handled himself as such... it would be an honor to have him as a colleague." His attending commented that "MSPE1 is an extremely mature, thorough, hardworking, and likeable clinician-scientist. His knowledge base of both clinical and basic science topics is among the best that I have seen in my 15 years of being at UMass. In fact, he often was able to answer questions that his PGY1s and PGY2s were not able to answer. [he is] the kind of team member we all hope to work with. He truly stood out as a super star." His interns were particularly grateful for MSPE1's presence on the team, with one intern commenting that "He was a pleasure to work with and really effectively reduced my workload!" During our weekly teaching sessions I was impressed with this young man's outstanding fund of medical knowledge, both with regard to basic and clinical science. He has a strong background in research, having been a PhD candidate as well as a medical student, and he was always ready with

cutting edge information relating to the medical care of his patients. He is one of the top 5 students I have ever worked with. He is confident, intelligent, enthusiastic, and empathic. What was even more impressive was that he commanded the attention of his fellow students with his medical knowledge, and brought out the best in them as well. He elevated the academic aspects of our teaching sessions in a way that I have not seen with any other student. I have no doubt that MSPE1 will be recruited by the most competitive residency programs, and that he will be an asset wherever he chooses to go. I expect to hear great things about MSPE1 in his future.

Interclerkships: In addition to required clerkships and electives, MSPE1 has satisfactorily completed all required interclerkship courses. Our interclerkships are one-day long, Pass-Fail, interdisciplinary courses in topics such as Domestic Abuse, US Healthcare system, Disabilities, Medical Error, Multiculturalism, End of life care, Complementary/ Alternative Medicine, and Geriatrics. Please see his transcript for the specific interclerkships MSPE1 has taken.

SUMMARY

In summary, MSPE1 is an extremely energetic, poised, and motivated student. He has a very broad fund of knowledge with good application of basic science knowledge to clinical problems. His questions are poised and articulate and he has high initiative in seeking out evidence and literature. MSPE1 has particularly strong diagnostic and clinical reasoning, developing accurate differential diagnoses and management plans. He elicits a pertinent, focused clinical history and was felt to have excellent technical and physical examination skills. His written documentation is thorough and accurate, and his oral presentations are clear and well prepared, including background and literature. MSPE1 is extremely dedicated to his patients and has a thoughtful, caring, compassionate manner. Patients relate to him easily and find him friendly and approachable. As a team member, MSPE1 is helpful, tireless, dependable, reliable, shows high initiative, and maintains his sense of humor even in pressured circumstances. He easily became an integral member of the team and was felt to function as a resident while a fourth year student. MSPE1 majored in Political Science as an undergraduate, and came to medical school with experience as an EMT, teacher and in basic science research. In addition to his academic work, he continues to teach and volunteer in the community. MSPE1 entered as a member of our combined MD-PhD program; his medical school years were extended in order to complete the PhD portion of his degree program. MSPE1 did extremely well during the preclinical years, receiving Honors grades in nine of the eleven graded courses, scoring 248 on Step 1 of USMLE, and was one of only eight students in his class commended by the Biology of Disease faculty. During his PhD work, he received three years of independent funding via the American Diabetes Association's Physician-Scientist Training Award and has published eight scientific articles, as well as presenting his work at scientific and clinical symposia. After completing his PhD thesis, he had an impressive third year, receiving grades of Above Expected Performance in one and Outstanding on five of the six required clerkships, his required subinternship, and all electives to date. MSPE1 has been elected to the UMass chapter of the medical school honor society *Alpha Omega Alpha*. Based on a review of MSPE1's record by a committee of the faculty, we are extremely pleased to endorse him as an outstanding candidate for a house staff position.

Sincerely,

Mai-Lan Rogoff, M.D.
Associate Dean for Student Affairs

MR/mb

University of Massachusetts Medical School
UMASS

APPENDICES

The Appendices recommended by AAMC and our attachments to this MSPE are described below:

Appendix A
Graphic Representations of Comparative Performance in Preclinical/Basic Science Coursework
Because of the value placed on a cooperative learning environment during the Basic Science years at the University of Massachusetts Medical School, the Educational Policy Committee of the faculty has voted to provide comparative graphs of clinical but not basic science performance. This policy is reviewed annually.

Appendix B
Graphic Representations of Comparative Performance in Core Clinical Clerkships
Please see attached histograms of comparative performance in our six third year core clerkships. Unless otherwise indicated, students are compared to their peers for the academic year in which the student took most of his/ her clerkships.

Appendix C
Graphic Representations of Comparative Performance in Professional Attributes
The following attributes of professionalism are graded on a yes/ no basis in each clinical clerkship:
- Maintains a Professional Demeanor
- Recognizes Limitations and When to Seek Help
- Shows Respect for a Patient's Dignity and Rights
- Displays Honesty and Integrity

All professionalism components must be passed to receive a passing grade for the clerkship. Comments about students' professionalism are included in clerkship narratives. The University of Massachusetts Medical School does not currently grade students on their professionalism in a way which supports comparative graphs.

Appendix D
Overall Comparative Performance in Medical School
The final level of endorsement for each student is determined by an Advisory Committee of the teaching faculty after careful review of the student's entire academic and personal record. The criteria for the level of evaluation are attached. It is not the policy of the Medical School to predetermine the percentage of each class which will receive each level of evaluation or to calculate rank in class.

Appendix E
Medical School Information Page
An appendix describing the medical school is attached.

Appendix D

CRITERIA FOR CATEGORIES OF ENDORSEMENT

The faculty of the University of Massachusetts Medical School has established these guidelines for the level of endorsement of their graduates in the Medical Student Performance Evaluation. These are overall appraisals of student performance by a committee of the faculty, but they should not be considered as representing "quartiles" of performance. As these are criterion-based rather than competitive norm-based rankings of students, it is theoretically possible for all students to be considered as "outstanding" or as "good."

In a strong class, such as the current one, the majority of students will fall into the top three ranks. Of the 101 students in the class of 2010, 29 students were considered "outstanding."

We consider this endorsement to represent the student's performance as it will reflect functioning in a clinical position; therefore significantly more emphasis is placed on clinical than on preclinical academic performance. Because qualities other than purely academic average are also considered, the difference in academic averages of students between continuous ranks is small and may even overlap. Factors other than academic performance which may be considered at all levels of endorsement include special interpersonal skills and characteristics considered necessary for effective functioning as a physician, outstanding research or social service participation, or unusual strengths in the student's chosen clinical field.

Outstanding: Reserved for those students who have earned ratings of "Outstanding Performance" in most or all of the required core clerkships and whose clinical performance has been consistently above the expected level. Most of these students have also earned "Honors" in a majority of preclinical courses.

Excellent and Potentially Outstanding: Those students who have done quite well and earned grades of "Outstanding" and "Above Expected Performance" in the majority of required core clerkships and usually many "Honors" grades in preclinical courses. Often this student shows increasingly strong performance as third year clerkships are completed and fourth year status is attained.

Excellent: These students have done very well academically, receiving a number of "Outstanding" or "Above Expected Performance" grades in core clerkships and often many "Honors" grades in preclinical courses. This student is considered highly competent.

Very Good and Potentially Excellent: The student has received one or two clinical grades of "Outstanding" or "Above Expected Performance" in core clerkships or electives and has successfully completed all preclinical coursework. This student has achieved a solid academic performance.

Very Good: The student has successfully completed all coursework, generally at an "Expected" or "Credit" level. This student may have received ratings of "Outstanding" or "Above Expected Performance" in electives but generally has not received them in core clerkships.

Good: The student has met all requirements. Performance is considered acceptable at the current time.

Recommended: The student is considered competent to progress to postgraduate training but has needed significant additional support or has required a longer time to master both basic science and clinical skills.

N.B.: Any grade of "No Credit" (preclinical) or "Fail" (clinical) must be remediated; a successful remediation from these grades will be noted on the transcript. In addition, any grade of "Below Expected Performance" in a clerkship must be remediated. All clinical remediations from any previous grade are discussed in the body of the Medical Student Performance Evaluation.

Appendix E
Medical School Information Page
University of Massachusetts Medical School
Worcester, Massachusetts

Specific programmatic emphases, strengths, mission(s), or goal(s) of the medical school: The principal goal of the educational program at UMMS is "the training of physicians in the full range of medical disciplines with emphasis on practice in the primary care specialties, in the public sector, and in underserved areas of Massachusetts." UMMS also places significant emphasis on basic and clinical research and includes combined MD-PhD and Senior Scholars research programs. It should be noted that UMMS' record of excellence in primary care training is not to the exclusion of other career options. The University of Massachusetts Medical School faculty has defined six competencies around which our curriculum is developed and evaluated. These core competencies are: The physician as **Professional, Scientist, Communicator, Clinical Problem Solver, Patient & Community Advocate,** and **Person.** By focusing curricular objectives on the "core competencies" required for all practitioners, the educational program strives to optimally prepare our students for their future medical careers regardless of specialty choice.

Special characteristics of the Medical School's educational program:
An optional enrichment course program permits interested students to explore curriculum material in a formal way, beyond that in the required curriculum. Completed optional enrichment courses are indicated on the transcript by ## and are noted in the MSPE. Students are not required to take ANY optional enrichment courses.
Programmatic emphases include:
Interdisciplinary curriculum development and implementation: Combining clinical and basic sciences with other disciplines: ethics, social sciences, behavioral science, nursing, and allied health professions. A two-year interdisciplinary course in "Physician, Patient, & Society" is required of all first and second year students. A series of interdisciplinary topic-oriented "interclerkship" seminars is required of third year students.
Problem solving: Using small group teaching formats to address clinical decision analysis, critical thinking, group learning, synthesis of information, and written and oral communication skills.
Independent study and active learning: Allowing unscheduled class time to pursue active learning and independent study in a variety of areas including service learning, research, community activism, advocacy for the underserved, and international health.
Exposure to ambulatory medicine: Including ambulatory exposure in all clerkship rotations and through a required longitudinal preceptorship program in years 1 and 2.
Emphasis on a cooperative rather than competitive learning atmosphere: Encouraging small group work in and outside of the formal curriculum; teamwork is promoted as a significant component of professionalism.
Use of standardized patients and other performance-based methods for teaching and assessment: Standardized patients are used for teaching and evaluation beginning in years 1 and 2 in our Physician, Patient, & Society course sequence and continuing through individual clerkship OSCEs in each required clerkship and a comprehensive end of third year performance-based examination.

Average length of enrollment: Four to five years for the MD; six to eight years for the combined MD/PhD. Students are encouraged to extend their academic programs for a variety of reasons. Some examples are: a competitive Pathology fellowship, our MD/PhD program, research year such as HHMI, international or research electives for >3 months, and other joint schooling such as study towards an MPH or MBA. Including MD/PhD students, approximately 25-30% of the students take five or more years to obtain the MD degree. Extensions are for personal, health, academic or enrichment/research reasons; the most common reason for program extension is enrichment/research.

Evaluation system: The Medical School uses grades of Honors (H), Credit (CR), No Credit (NCR) for preclinical grades (some courses do not carry an Honors option). Clinical performance is evaluated as Outstanding (O), Above Expected (AEP), Expected (EP), Below Expected (BEP), or Fail (F) together with a written commentary. Credit (CR) and Expected (EP) are considered satisfactory grades; the Medical School considers that it sets a high standard for achieving these grades. Any grade of NCR, BEP or F must be remediated.

Medical School requirements for completion of USMLE Steps 1 and 2: For graduation, UMass requires that students must pass **Step 1** and must sit for **Step 2** (both Clinical Knowledge (CK) and Clinical Skills Examination (CSE)) of the USMLE and report a score. Passage of Step 1 is not required for promotion to the clinical years.

Medical school requirements for successful completion of Objective Structured Clinical Evaluation (OSCE):
Clerkships: OSCEs are incorporated into each clerkship; passage of these OSCEs is required for successful completion of each clerkship.
End of third year: All students must demonstrate competence in the core clinical skills presented across all third year clerkships by successful completion of a multi-station "end of third year" OSCE. This examination typically includes an average of 7 stations of standardized patient encounters, addressing a variety of clinical skills including problem solving, history-taking, physical diagnosis, management planning, and professionalism, as well as particular communications tasks such as patient education. Students are permitted two attempts to demonstrate competence in the areas evaluated and are given additional assistance if needed.

Utilization of clerkship and elective director's narrative comments in composition of the MSPE: Clerkship and elective commentaries appear in the MSPE as submitted by the clerkship or elective director and are minimally edited for length, style and consistency; comments that do not characterize the student's general performance are not reproduced in the letter. Comments that appear in more than one clerkship or that are noted by more than one evaluator within a clerkship, including negative comments, are reported in the MSPE. All narratives are quoted in their entirety as submitted; any edits are indicated.

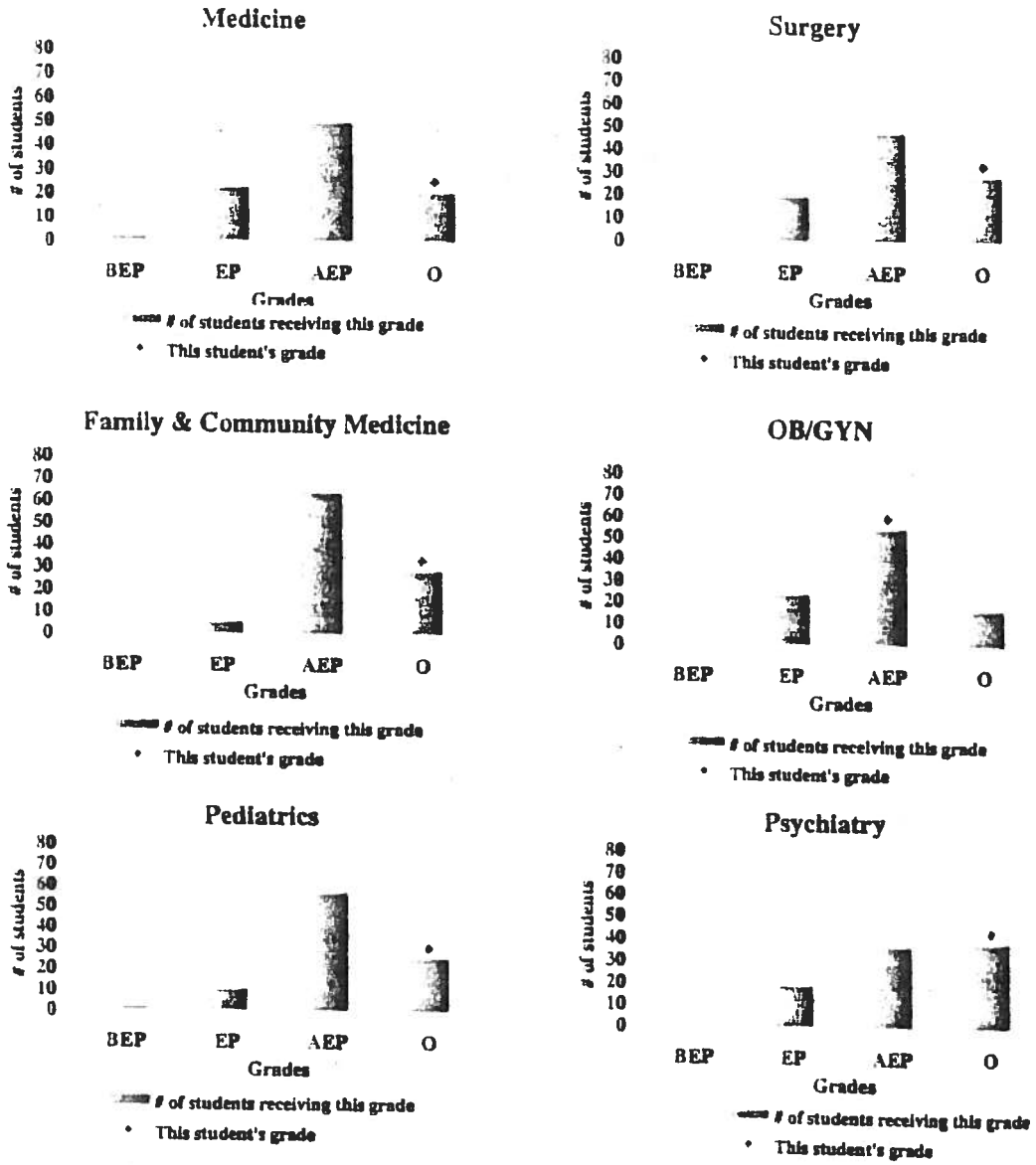
Medical school compliance with the AAMC "Guidelines for Medical Schools Regarding Academic Transcripts." The University of Massachusetts Medical School is in compliance with guidelines #1- 15 of the Association of American Medical Colleges' Group on Student Affairs Guidelines for Medical Schools Regarding Academic Transcripts. UMass is in the process of exploring methods of implementing guideline #16 (remote storage of duplicate documents).

Description of the process by which the MSPE is composed at the medical school: The MSPE is written by the Associate Dean for Student Affairs, with editorial assistance from Student Affairs staff, and is based on all records available to that office. Each student is individually interviewed by the Associate Dean or one of the Assistant Deans. Information about the student's grades is obtained from the registrar; narrative comments are provided by each of the clerkship and elective coordinators; information about premedical and extracurricular activities is provided by the student. Required clinical clerkships and electives are reported in the order in which they were taken; any clinical remediation is presented and discussed in the letter. The final level of recommendation for each student is determined by an Advisory Committee of the teaching faculty after careful review of the student's entire academic and personal record.

Review of MSPE by students: Each student is permitted to review his/her MSPE and submit comments about what s/he believes to be factual or grammatical errors. Allegations of factual errors are verified before any change is made. Final decisions about the form and content of the letter rests with the Associate Dean for Student Affairs and an Advisory Committee of the faculty.

Appendix B: Comparative Performance in Core Clinical Clerkships
For Clerkships Taken in 2008 - 2009

Name of Student: **MSPE1**



These calculations reflect a comparison of how this student did for all of or for the majority of clerkships taken during this time

AAMC

Tomorrow's Doctors, Tomorrow's Cures

2010-2011 LCME Part I-B Student Financial Aid Questionnaire

University of Massachusetts Medical School

Return to Survey

Welcome to the 2010-2011 Liaison Committee on Medical Education (LCME) Part I-B Student Financial Aid Questionnaire.

[illegible] the data requested by this annual survey are classified as unrestricted and may be published with institutional identification. The data are used by the LCME as part of the medical school accreditation process, and they are also entered into the AAMC's Medical School Profile System (MSPS) to provide schools with benchmarking reports. Additionally, the data from this survey are used in AAMC annual and ad-hoc reports. By continuing, you acknowledge that you have read the above disclosure statement and agree to participate in the survey.

Please return your completed questionnaire by Friday, September 16, 2011.

If you have any questions regarding technical aspects of the survey, contact Geoffrey Redden at [illegible]. If you have questions that relate to how to report your institution's data, contact Shelley Yerman at syerman@aamc.org

SECTION 1 - Financial Assistance Obtained by Students for Academic Year 2010-2011

Instructions:

Column A) Student counts are extracted from your school's 2010-2011 LCME Part II Annual Medical School Questionnaire and are populated in the cells below. Since the student counts from the Part II questionnaire are collected in the middle of the academic year, there is a chance that these data may need to be adjusted to reflect the most recent student data available. Please make any modifications necessary.

Column B) Indicate the number of students who received financial assistance in the 2010-2011 academic year.

Column C) Indicate the total dollar amount of aid that students who are reported in Column B received during the 2010-2011 academic year. Please note that if the total dollar amount [illegible] reported below does not agree with the sum of the awards reported in [illegible] (Section [illegible]), Loans (Section [illegible]), and Work-Study (Section [illegible]), an explanation must be given for the discrepancy in Section 8 of the questionnaire.

	A) Number of Students	B) Number of Students Receiving Aid	C) Total Dollar Amount Paid
First-year students	128	119	4298749
First-year students enrolled in the MD program, [illegible]			
Second-year students	123	119	4212488
Second-year students enrolled in the MD program, [illegible]			
Third-year students	119	108	3751103
Third-year students enrolled in the MD program, including those repeating the third year [illegible]			
Fourth-year students	31	29	1002421
[illegible] students enrolled in the fourth year of the program [illegible] during the 2010-2011 academic year [illegible]			

[illegible]	36	7	2444149
[illegible]			
[illegible]	487	452	15708908

If you have any difficulty with the survey, please contact [illegible]

SECTION 2 - Grants/Scholarships

Instructions:

[illegible] report the number of students who received grants/scholarships, the number of grants/scholarships awarded, and the dollar amount of grants/scholarships awarded to all students in the 2010-2011 academic year in each category below.

I. Grants/scholarships without a service commitment

	Total number of medical students receiving grants/scholarships	Total number of grants/scholarships	Total dollar amount of grants/scholarships
Scholarships for Disadvantaged Students (SDS)	38	38	91750
Other grants and scholarships [illegible]			
Need based	125	289	1398367
Non-need based			
[illegible]	30	180	308027
[illegible] employees [illegible] staff	0	0	0
Other	30	30	91138
Other grants and scholarships [illegible]			
Need based	4	4	31500
Non-need based			
[illegible]	0	3	0
Other	19	19	30145
Total [illegible]			2308934

II. Grants/scholarships with a service commitment

[illegible] grants/scholarships with a service commitment, please include the dollar amount of tuition and other reimbursable expenses (e.g., books, health insurance, and [illegible]). It is recognized that exact amounts for reimbursable expenses may not be known; in such cases, provide [illegible]. Do not include living expense stipends.

[illegible] Health Service [illegible]	0	0	0

[illegible]	6	9	112362
[illegible]	0	0	0
[illegible]	0	0	0
[illegible]			112362
[illegible]			2421298

[illegible]

If you have any difficulty with the survey, please contact Geoffrey Redden at [illegible]

SECTION 3 - Loans

Instructions:

Please report the number of loans and the dollar amount of loans awarded to all students in the 2010-2011 academic year in each category below.

	Total Number of Medical Students Receiving Loans[1]	Total number of loans[2]	Total dollar amount of loans[3]
[illegible]	0	0	0
[illegible]	0	0	0
[illegible]	0	0	0
[illegible]	0	0	0
[illegible]	378	8	3132503
[illegible]	314	[illegible]5	3435691
[illegible]	5	7	[illegible]6420
[illegible]	0	0	0
[illegible]	31	31	436800
[illegible][4]	7	7	143985

	83	83	2124192
	0	0	0
	17	17	17000
	83	83	307000
	53	53	854341
			3287812

[redacted]

If you have any difficulty with the survey, please contact Geoffrey Redden at [redacted]@aamc.org.

SECTION 4 - Work-Study

Instructions:

Please report all college work-study payments in the "Federally funded" category (include both federal and school contributions). Enter "NA" if the program is not offered.

	Total number of students receiving payments	Total dollar amount of work-study payments
[redacted]	0	0
[redacted]	0	0
[redacted]		0

If you have any difficulty with the survey, please contact Geoffrey Redden at [redacted]@aamc.org.

SECTION 5 - Grand Total Dollar Amount of Grants, Scholarships, Loans and Work-Study

Instructions:

[illegible] through [illegible] be completed before Section 5 can be completed. The Grand Total of Sections 2, 3, and 4 [illegible] grand total dollar amounts [illegible] Scholarships (Section 2), Loans (Section 3), and Work Study (Section 4). The Total from Section 1, Column [illegible] total dollar amount [illegible] as reported in Financial [illegible] (Section 1). If the Grand Total of Sections 2, 3, and 4 does not equal the Total from Section 1, Column [illegible], an explanation must be provided in the text box below.

	Total dollar amount of awards
[illegible]	15708908
[illegible]	15708908
[illegible]	0

[illegible]

[illegible] you have any difficulty with the survey, please contact Geoffrey Hedden at ghedden@aamc.org.

ECTION 6 - Educational Indebtedness

[illegible] the best of your knowledge, please report the total pre-medical educational indebtedness of all members of the 2010-2011 first year class prior to their medical school matriculation. National Student Loan Data Systems (NSLDS) data are acceptable. If you are unable to report the number of students with pre-medical educational debt or the amount of pre-medical educational debt, please enter "NI" in the appropriate box and provide an explanation in the text box below.

[illegible] students	49
[illegible] indebtedness	1084885

[illegible]

1. Please report the total cumulative medical school educational indebtedness (excluding debt associated with enrollment in joint, dual, or combined degree programs) per class of [illegible] students as of the end of the 2010-2011 academic year. If you are unable to report the number of students with medical school educational debt or the amount of medical [illegible] educational debt, please enter "NI" in the appropriate box and provide an explanation in the text box below. Please note that the values in the "Percentage of Graduates with Medical School Debt" and the "Average Graduate Debt" boxes will be automatically calculated and displayed for your convenience. You will not need to make these calculations.

	Number of students with medical school debt	Total medical school debt amount for all students
[illegible] year	113	3238959
[illegible] year	112	0656547
[illegible] year	110	9190887

	29	$458267
	30	$704883
	444	$1249543
	93	$8811

	Number of Graduates with Educational Debt
	8
	3
	0
	4
	4
	2
	3
	3
	1
	3
	3
	4
	5
	7
	2
	5

[illegible]	7
[illegible]	6
[illegible]	2
[illegible]	1
[illegible]	4
[illegible]	1
[illegible]	0
[illegible]	0
[illegible]	0
[illegible]	0
[illegible]	60
[illegible]	56

[illegible]

If you have any difficulty with the survey, please contact Geoffrey Gilbert at [illegible].

Supplemental Data Section

Instructions:

The Supplemental Section of the LCME Part I-B Student Financial Aid Questionnaire is optional. The following data are not required by the LCME, but are requested for use in research and development efforts associated with current issues and trends in medical school financial aid and educational debt.

While the majority of the data in this supplemental section of the survey are unrestricted and may be published with institutional identification, data from a few items are considered restricted and may not be published with institutional identification, but may be released at the discretion of the AAMC president or his designees to qualified individuals and organizations who agree to protect it. These items will be labeled with (R) to indicate their restricted classification.

1. Report the number of students and the total dollar amount awarded of "Super PCL" to third and fourth-year students for the purpose of paying off the balances of higher cost educational loans.

	Number		Super PCL Amount
[illegible]	0	[illegible]	0
[illegible]	0	[illegible]	0

2. Do you provide on-campus exit interviews?

Campaign to raise funds for need-based institutional scholarships is currently

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Other

a. To the best of your knowledge, how many of your institution's 2011 medical school graduates were enrolled in a combined/ dual/joint degree or certificate program (e.g., M.D./Ph.D. and M.D./M.P.H. programs) since their matriculation at your institution or another institution?

Number 5

b. Was the educational debt they incurred while enrolled in the degree or certificate program(s) included in the medical school total indebtedness amount reported in section [illegible] of the LCME I-A Questionnaire?

Yes No

If yes, can you differentiate combined/dual/joint degree or certificate program debt from medical school debt reported in the LCME I-A?

Yes No

If yes, what is the total amount of non-medical debt incurred as a result of these students' enrollment in the combined/dual/joint degree or certificate program(s)?

[illegible]

11. (R) a. Do you have the ability to identify the federal cohort default rate for your medical school?

Yes No

3

37

29

29

Survey Contact Information

Please enter the contact information of the individual who completed the survey.

First Name:	Betsy
Middle Name:	A
Last Name:	Groves
Title:	
Title 1:	Director of Financial Aid
Title 2:	
Title 3:	
Phone (XXX-XXX-XXXX):	508-856-2265
Phone Ext:	
Email:	betsy.groves@umassmed.edu

Return to Survey

FACULTY NUMBERS BY DEPARTMENT
Data as of 6/30/2011

Department*	Full-Time Faculty					Part-Time Faculty	Volunteer
	Professor	Associate Professor	Assistant Professor	Instructor/ Other	Vacant*		
Biochemistry & Molecular Pharmacology	14	15	11	5		4	5
Cancer Biology	5	4	4	3		1	3
Cell Biology	15	6	12	6		6	17
Microbiology & Physiological Systems	17	11	12	6		9	3
Neurobiology	3	5	4	0		0	2
Program in Molecular Medicine	16	18	28	19		2	2
Quantitative Health Sciences	7	5	6	1		3	1

* Replace indicated department names with school-specific names, as needed.
** Report Pathology data here only if the school reported Pathology as a basic science department in the faculty counts for Part A of this database section.

Department*	Full-Time Faculty					Part-Time	Volunteer
	Professor	Associate Professor	Assistant Professor	Instructor/ Other	Vacant*		
Anesthesiology	4	7	26	0	1	8	32
Emergency Medicine	6	15	27	12	7	4	29
Family & Community Medicine	13	18	49	35	12	31	231
Medicine	61	71	202	63	52	94	355
Neurology	11	12	21	3	2	10	15
Obstetrics & Gynecology	2	4	19	10	3	10	39
Ophthalmology	1	0	6	0	2	2	23
Orthopedics & Physical Rehabilitation	7	6	22	1	7	5	26
Otolaryngology	2	1	3	1	1	0	12
Pathology	15	11	16	9	4	3	11
Pediatrics	16	17	57	35	10	30	150
Psychiatry	17	16	58	18	7	65	102
Radiation Oncology	1	7	4	2	2	5	0
Radiology	8	12	22	4	7	7	26
Surgery	19	16	38	6	6	5	68

* Replace indicated department names with names used at your institution, as needed.
** Report data for these departments here only if you reported them as clinical departments in your faculty counts for Part A of this database section.

TEACHING RESPONSIBILITIES BY DEPARTMENT

Number of Courses Taught Per Year: 2010-2011			
SOM Clinical Sciences Department	**Medical Students**	**Graduate Students**	**Nursing Students**
Anesthesiology	1		
Family Medicine & Community Health	2		
Emergency Medicine	1		
Internal Medicine	7		
Neurology	2		
Obstetrics/Gynecology	1		
Pathology	3		
Pediatrics	4		
Psychiatry	2		
Radiology	1		
Radiology Oncology	1		
Surgery	2		
Office of Undergraduate Medical Education	8		

FACULTY SCHOLARLY PRODUCTIVITY

Data as of 06/30/2010

Department*	Number of:		Number of Departmental Faculty Members Who Are:		
	Articles in Peer-reviewed Journals	Books and Book Chapters Published	Members of National Study Sections or Committees	Journal Editors or Members of Editorial Boards	PIs on Extramural Grants
Anesthesiology	12	9	2	7	0
Biochemistry & Molecular Pharmacology	97	4	12	16	22
Cancer Biology	42	0	9	12	20
Cell Biology	88	9	71	83	70
Emergency Medicine	22	44	4	5	8
Family Medicine & Community Health	45	4	0	1	12
Medicine	545	156	49	50	68
Molecular Genetics & Microbiology	35	0	6	7	11
Neurobiology	30	19	6	6	11
Neurology	58	2	7	9	7
Obstetrics & Gynecology	33	14	2	7	1
Ophthalmology	138	7	1	7	8
Orthopedics & Physical Rehabilitation	19 **	4**	9	5	10
Otolaryngology	5	4	0	1	0
Pathology	167	56	18	17	19

Department*	Number of:		Number of Departmental Faculty Members Who Are:		
	Articles in Peer-reviewed Journals	Books and Book Chapters Published	Members of National Study Sections or Committees	Journal Editors or Members of Editorial Boards	PIs on Extramural Grants
Pediatrics	93	3	49	5	29
Physiology	40	3	4	3	12
Program in Molecular Medicine	218	16	22	19	40
Psychiatry	192	55	39	41	47
Quantitative Health Sciences	86	1	9	5	7
Radiation Oncology	13	0	7	2	1
Radiology	53	6	12	10	24
Surgery	120	18	23	14	13

** Calendar year 2009

FACULTY COMMITTEES

Committee	Number of Members	Appointed or Elected by:	Reports to:	Authority (R/A/B)
Admissions (SOM)	27	Appointed by the Committee on Committees	Associate Dean of Admissions	A
Animal Care (IACUC)	8	Chancellor or Research Designee	Chancellor or Research Designee	B
Biomedical Computing	7	Appointed by the Committee on Committees	Faculty Council, OME, IS	R
Council on Equal Opportunity and Diversity	20+ including 5 Faculty	Appointed by Committee on Committees & Council Executive Committee	Chancellor	R
Committee on Committees	9	3 FC, 3 EC, 2 Students, CDAF	Executive Council	R
Educational Policy	29	Appointed by Chairs	SOM Dean	B
Executive Council	30	Appointed by Provost	Chancellor	R
Faculty Council	32	Department Elections	Executive Council	R
Graduate Council	10	Selected by Committee on Committees, Executive Council & GSBS Dean	GSBS Dean	B
Graduate Medical Education	17+	Chair	SOM Dean & UMMMC Leadership	R
Grievance	7	Elected at-large	Provost	R
Human Subjects (CPHSR)	Per HHS	Chancellor or Research Designee	Chancellor or Research Designee	B
Institutional Biosafety	Per NIH	Chancellor or Research Designee	Chancellor or Research Designee & Scientific Council	B
Library & Learning Resources	7	Appointed by the Committee on Committees	Library Director	R

Committee	Number of Members	Appointed or Elected by:	Reports to:	Authority (R/A/B)
Patent Policy	7	Appointed by the Committee on Committees	Chancellor or Research Designee	R
Personnel Action (GSN)	7	School Election	GSN Dean	R
Personnel Action (SOM)	7	School Election	SOM Dean	R
Radiation Safety	18+	Per federal guidelines	Chancellor or Research Designee & Scientific Council	B
Scientific Council	24	Department Elections	Chancellor or Research Designee & SOM Dean	R
Student Affairs	9+ Students	Appointed by the Committee on Committees	Associate Dean for Student Affairs	R
Tenure Committee	12	Department Elections	Chancellor	R
Women's Faculty	9+	Appointed by Committee on Committees & Council Executive Committee	Chancellor	R

Revenues and Expenditures Summary

University of Massachusetts Medical School (195)

	FISCAL YEAR 2009	FISCAL YEAR 2010	FISCAL YEAR 2011	PROJECTED FISCAL YEAR 2012**
REVENUES:				
Tuition and Fees:				
Medical Students	$ 6,479,554	$ 7,071,089	$ 7,768,692	$ 8,751,000
Other Students	$ 5,094,390	$ 7,096,323	$ 7,329,630	$ 7,482,000
Total Tuition and Fees	$ 11,573,944	$ 14,167,412	$ 15,098,322	$ 16,233,000
Government and Parent Support:				
Federal Appropriations	$ -	$ -	$ -	
Adjusted State and Parent Support	$ 42,693,741	$ 47,131,731	$ 45,870,354	$ 40,375,000
Local Appropriations	$ -	$ -	$ -	
Total Government and Parent Support	$ 42,693,741	$ 47,131,731	$ 45,870,354	$ 40,375,000
Grants and Contracts:				
Federal Direct	$ 90,241,966	$ 112,698,540	$ 134,501,182	$ 145,894,000
State & Local Direct	$ 38,483,409	$ 30,785,945	$ 28,847,365	$ 28,997,000
Private Direct	$ 34,178,414	$ 35,412,074	$ 36,467,653	$ 26,904,000
Facilities & Admin (Indirect)	$ 58,236,810	$ 66,152,904	$ 71,996,426	$ 71,695,000
Total Grants and Contracts	$ 221,140,599	$ 245,049,463	$ 269,812,626	$ 271,490,000
Practice Plans/Other Medical Services	$ 294,209,927	$ 307,824,957	$ 332,769,198	$ 345,451,000
Hospitals:				
University Owned	$ -	$ -	$ -	
Veterans Administration	$ -	$ -	$ -	
Other Affiliated Hospitals	$ 120,402,606	$ 121,821,689	$ 131,465,926	$ 152,873,000
Total Hospital Revenues	$ 120,402,606	$ 121,821,689	$ 131,465,926	$ 152,873,000
Gifts	$ 4,702,673	$ 2,952,449	$ 6,111,783	$ 10,000,000
Endowment Income	$ 1,213,632	$ 2,202,313	$ 1,997,156	$ 2,101,000
Other Revenues	$ 514,879,517	$ 527,695,062	$ 563,442,005	$ 536,964,000
TOTAL REVENUES	$ 1,210,616,639	$ 1,268,845,076	$ 1,366,567,370	$ 1,375,487,000
TOTAL EXPENDITURES & TRANSFERS	$ 1,221,172,717	$ 1,334,222,507	$ 1,416,374,945	$ 1,387,257,000
NET REVENUES OVER EXPENDITURES	$ (10,356,078)	$ (65,377,431)	$ (49,807,575)	$ (11,770,000)
Change		$ (55,021,353)		

** Based on budget projections

LIAISON COMMITTEE ON MEDICAL EDUCATION

LCME Part I-A Annual Financial Questionnaire on Medical School Financing

Fiscal Year 2009-10

DEADLINE December 15, 2010

School Contact Information and Signature Sheet
School ID Code - 135

School Name: University of Massachusetts Medical School

Name of Dean: Terrence R. Flotte, MD

Dean's Signature _____ *Date* _____

Principal Business Officer: Nancy Vasil

Principal Business Officer's Signature _____ *Date* _____

Primary Preparer: Brian Szymanski

Other Preparer(s): _____

Primary Preparer Email Address: Brian.Szymanski@umassmed.edu

Primary Preparer Phone Number: 508-856-8546

NOTE: After obtaining signatures, please fax or mail this sheet to

Association of American Medical Colleges
Attention: Katy Brandenburg
Medical School and Faculty Studies
2450 N. Street, NW
Washington, DC 20037-1127

Phone (202) 862-6158
Email: sfaq@aamc.org
Fax (202) 478-9868

LIAISON COMMITTEE ON MEDICAL EDUCATION

ME Part I-A Annual Financial Questionnaire on Medical School Financing

DEADLINE December 15, 2010

ent Funds Revenues, Expenditures and Transfers - Data Entry Sheet

n Revenues and Expenditures

	Line	Recorded	Not Recorded	Total
Revenues from tuition and fees (T&F) assessed to medical students	L18	$3,678,951.00	$3,394,138.00	$7 071 389
Revenues from T&F assessed to graduate students enrolled in medical school programs	L19	$3,276,786.00	$67,733.00	$3 344 519
Revenues from continuing medical education programs	L20	$3,456,932.00		$3 456 932
Other tuition and fees revenues	L21	$284,507.00	$10,365.00	$294 872
TOTAL TUITION AND FEES REVENUES	L22	$10,696,176.00	$3,472,236.00	$14,167,412
Expenditures this fiscal year associated with tuition & fees recorded in medical school accounts	L25	$10,696,176.00	$3,472,236.00	$14 167 412

s & Contracts Expenditures

Direct Costs Expenditures:

	Line	Recorded	Not Recorded	Total
Federal Grants and Contracts for Organized Research	L32	$109,606,822.00		$109 606 822
Federal Grants and Contracts for Training/Instruction	L33	$864,592.00		$864 592
Other federal sponsored programs	L34	$2,227,126.00		$2 227 126
Total Direct Costs (Federal Government)	L36	$112 698 540.00	$0.00	$112 698 540
State and Local Gov't Grants and Contracts	L37	$30,785,946.00		$30,785,946
Other Grants and Contracts Direct Expenditures	L38	$35,412,074.00		$35,412,074
Total Grants and Contracts Direct Expenditures	L40	$178,896,559.00	$0.00	$178,896,559

Facilities & Administrative (Indirect) Costs

	Line	Recorded	Not Recorded	Total
F&A costs charged to federal grants & contracts for organized research	L43	$53,636,766.00		$53 636 766
F&A costs charged to federal training/instruction grants/contracts	L44	$44,981.00		$44 981
F&A costs charged to other federal sponsored programs	L45	$238,025.00		$238,025
Total Federal F&A Costs Expenditures	L47	$53,919,772.00	$0.00	$53,919,772
F&A costs charged to State and Local Gov't Grants and Contracts	L48	$3,201,744.00		$3 201 744
F&A costs charged to Other Grants and Contracts	L49	$9,031,388.00		$9 031 388
Total F&A Costs Expenditures	L51	$66,152,904.00	$0.00	$66,152,904
TOTAL GRANTS/CONTRACTS	L52	$245,049,463.00	$0.00	$245,049,463
Expenditures of F&A costs allocated to the medical school	L54	$51,371,981.00		$51,371,981
Estimated # of full-time equivalent (FTE) faculty actively engaged in sponsored programs activities	L57	298.00		

rnment and Parent Support Expenditures

Federal Appropriations (excluding grants & contracts)

	Line	Recorded	Not Recorded	Total
Federal Appropriations Expended for General Operations	L65			$0
Special Federal Appropriations	L66			$0
Total Federal Appropriations	L68	$0.00	$0.00	$0

State and Parent Support (excludes grants & contracts)

	Line	Recorded	Not Recorded	Total
State and Parent University Funds Expended for General Operations	L71	$47,066,857.00		$47 066 857
Medical School's Share of Parent University's Central Support Costs	L72			$0
Special State Appropriations	L73	$3,537,110.00		$3,537 110
Interstate Compacts	L74			$0
Subtotal State and Parent Support Funds Expended	L76	$50,603,967.00	$0.00	$50,603,967
Tuition and Fees Retained by State/Parent	L77		$3,472,236.00	$3,472,236
Facilities & Administrative (Indirect) Costs Retained by State/Parent	L78			$0
Parent University Mandatory Assessment	L79			$0
Other Funds Retained by State/Parent	L80			$0
Subtotal Funds Retained by State/Parent University	L82	$0.00	$3,472,236.00	$3,472,236

LIAISON COMMITTEE ON MEDICAL EDUCATION

LCME Part I-A Annual Financial Questionnaire on Medical School Financing

Current Funds Revenues, Expenditures and Transfers - Data Entry Sheet

DEADLINE December 15, 2010

		Recorded	Not Recorded	Total
Total Adjusted State and Parent Support	L34	$50,603,967.00	$3,472,236.00	$47,131,731
Total Local Appropriations (excludes grants and contracts)				
Local Appropriations Expended for General Operations	L37			
Special Local Appropriations	L38			$0
Total Local Appropriations	L90	$0.00	$0.00	$0
TOTAL EXPENDITURES AND TRANSFERS FROM GOVERNMENT AND PARENT SUPPORT FUNDS	L92	$50,603,967.00	$3,472,236.00	$0
				$47,131,731

Hospital Funds Expenditures and Transfers

University Owned Hospitals

Payments or Fund Transfers to the Medical School for Services Purchased by University Hospitals	L118			$0
University hospital funds transferred to practice plans in payment for purchased services	L119			$0
Expenditures on university hospital books for services provided by medical school or practice plan(s)	L120			$0
Housestaff stipends paid from university hospital funds	L121			$0
University hospital investment in the clinical enterprise	L122			$0
Strategic support of medical school programs from university hospitals	L123			$0
Total Expenditures and transfers from University Hospital funds	L128	$0.00	$0.00	$0

Veterans Affairs (VA) Hospitals

Payments or Fund Transfers to the Medical School for Services Purchased by VA Hospitals	L128			$0
VA hospital funds transferred to practice plans in payment for purchased services	L129			$0
Expenditures on VA hospital books for services provided by medical school or practice plan(s)	L130			$0
Housestaff stipends paid from VA hospital funds	L131			$0
VA hospital investment in the clinical enterprise	L132			$0
Strategic support of medical school programs from VA hospitals	L133			$0
Total Expenditures and transfers from VA Hospital Funds	L136	$0.00	$0.00	$0

Other Affiliated Hospitals

Payments or Fund Transfers to the Med School for Services Purchased by Other Affiliated Hospitals	L138	$22,292,541.00		$22,292,541
Other affiliated hospital funds transferred to practice plans in payment for purchased services	L139		$97,004,152.00	$97,004,152
Expenditures on the books of other affiliated hospitals for services provided by medical school or practice plan(s)	L140			$0
Housestaff stipends paid from other affiliated hospital funds	L141	$2,524,996.00		$2,524,996
Other affiliated hospital investment in the clinical enterprise	L142			$0
Strategic support of medical school programs from other affiliated hospitals	L143			$0
Total Expenditures/transfers from Other Affiliated Hospitals Funds	L146	$24,817,537.00	$97,004,152.00	$121,821,689
TOTAL EXPENDITURES AND TRANSFERS FROM HOSPITAL FUNDS	L148	$24,817,537.00	$97,004,152.00	$121,821,689

Restricted Gifts & Endowment Funds Expenditures

Restricted Gift Funds Expended	L182	$2,264,255.00		$2,264,255
Expenditure of Income from Restricted Endowment Funds	L183	$2,190,842.00		$2,190,842
TOTAL EXPENDITURES AND TRANSFERS FROM RESTRICTED GIFTS AND ENDOWMENT FUNDS	L98	$4,455,097.00	$0.00	$4,455,097

Unrestricted Gifts & Endowment Revenues & Expenditures

Revenues from Unrestricted Gifts	L162	$688,194.00		$688,194
Income (Payout) from Unrestricted Endowment Funds	L163	$11,471.00		$11,471

LIAISON COMMITTEE ON MEDICAL EDUCATION

LCME Part I-A Annual Financial Questionnaire on Medical School Financing

DEADLINE December 15, 2010

ent Funds Revenues, Expenditures and Transfers - Data Entry Sheet

		Recorded	Not Recorded	Total	
Total Revenues from Unrestricted Gifts and Endowments	L166	$699,666.00	$0.00	$699,666	(I)
Unrestricted Gift Funds Expended	L167	$204,680.00		$204,680	(I)
Expenditure of Income from Unrestricted Endowment Funds	L168			$0	(I)
TOTAL EXPENDITURES AND TRANSFERS FROM UNRESTRICTED GIFTS AND ENDOWMENT FUNDS	L170	$204,680.00	$0.00	$204,680	(I)

ice Plans (Charges, Revenues and Expenditures)

Gross Charges					
Commercial (e.g., Trigon)	L177		$493,892,230.00	$493,892,230	(C)
MEDICARE Fee-for-service	L178		$200,812,431.00	$200,812,431	(C)
MEDICARE Other/Unspecified	L179		$0.00	$0	(C)
MEDICAID (Total)	L183		$116,058,544.00	$116,058,544	(C)
Self Pay	L184		$27,099,626.00	$27,099,626	(C)
Other	L186		$217,930.00	$217,930	(C)
Total Gross Charges	L187	$0.00	$838,078,761.00	$838,078,761	(C)
Adjustments and Allowances					
Charity Care	L190		$22,711,363.00	$22,711,363	(C)
Bad Debt	L191		$15,104,197.00	$15,104,197	(C)
Medicare	L192			$0	(C)
Medicaid	L193			$0	(C)
All Other	L194		$528,646,327.00	$528,646,327	(C)
Total Adjustments and Allowances	L196	$0.00	$566,460,887.00	$566,460,887	(C)
Patient Care Revenues					
Commercial	L199			$0	(C)
MEDICARE Fee-for-service	L200			$0	(C)
MEDICARE Other/Unspecified	L201			$0	(C)
MEDICAID (Total)	L205		$17,227,479.00	$17,227,479	(C)
Self-pay	L206			$0	(C)
All Other Patient Care Net Revenues	L207		$271,615,874.00	$271,615,874	(C)
Total Patient Care Revenues	L209	$0.00	$288,843,353.00	$288,843,353	(C)
Revenues from affiliated hospitals (from hospital revenues reported above)	L218	$0.00	$97,004,152.00	$97,004,152	(I)
Other Revenues					
Contracts (not related to affiliated hospitals)	L216		$13,361,982.00	$13,361,982	(C)
Other operating revenues (describe)	L217		$5,619,622.00	$5,619,622	(C)
Total Other Revenues	L219	$0.00	$18,981,604.00	$18,981,604	(C)
Subtotal - Practice Plan Total Revenues	L221	$0.00	$404,829,109.00	$404,829,109	(C)
Less Hospital Revenues	L222	$0.00	$97,004,152.00	$97,004,152	(C)
TOTAL PRACTICE PLAN NET REVENUES	L223	$0.00	$307,824,957.00	$307,824,957	(C)

Education of Other Practice Plan Operating Revenues

Managed Care Capitation, Management Fee Income, Miscellaneous Other Operating Revenues

Practice Plan Expenses

Taxes and Transfers:					
Medical School Support (Dean's Tax)	L232			$0	(C)
Other Taxes/Support (Medical School-wide)	L233		$11,556,100.00	$11,556,100	(C)
Department Support (to Medical School Departments)	L234		$843,144.00	$843,144	(C)

LIAISON COMMITTEE ON MEDICAL EDUCATION

LCME Part I-A Annual Financial Questionnaire on Medical School Financing

DEADLINE December 15, 2010

Current Funds Revenues, Expenditures and Transfers - Data Entry Sheet

		Recorded	Not Recorded	Total	
Other Taxes Support (Parent University)	L235			$0	(C)
Other Taxes Support (University Hospital)	L236			$0	(C)
Other Taxes Support (Affiliated Hospitals)	L237			$0	(C)
Compensation Expenses:					
Physician Salaries and Benefits	L240		$240,202,548.00	$240,202,548	(C)
All Other Compensation	L242		$101,393,602.00	$101,393,602	(C)
Other Practice Plan Operating Expenses					
Other Operating Expenses Not Reported Above	L246		$58,527,860.00	$58,527,860	(C)
Subtotal - Practice Plan Total Expenses	L247	$0.00	$412,522,254.00	$412,522,254	(C)
Less Expenditures Reported by Hospital (revenues transferred to Practice Plan(s))	L248	$0.00	$97,004,152.00	-$97,004,152	
TOTAL PRACTICE PLAN NET EXPENSES AND TRANSFERS	L249	$0.00	$315,518,102.00	$315,518,102	(C)
Practice Plan Funds transferred to the medical school (e.g., dean's tax and dept support) not spent this fiscal year	L51			$0	(C)

Other Revenues and Expenditures

Sales and Services Revenues	L56	$83,137,558.00		$83,137,558	(C)
Royalty Income	L57	$11,738,428.00		$11,738,428	(C)
Interest/Investment Income	L58	$2,099,878.00	$28,614.00	$2,127,490	(C)
Leases/Rental Income	L60		$57,704.00	$57,704	(C)
Other Revenues (Excludes federal amounts passed through)	L61	$450,638,886.00		$450,638,886	(C)
TOTAL OTHER REVENUES	L63	$527,608,744.00	$86,318.00	$527,695,062	(C)
OTHER EXPENDITURES and TRANSFERS	L65	$600,655,256.00		$600,655,256	(C)

Public Service: Public Health Programs $407,510,987

Total Revenues Reported Above	L74	$863,929,649.00	$404,915,427.00	$1,268,845,076	(C)
Total Expenditures Reported Above	L75	$921,706,253.00	$412,522,254.00	$1,334,222,507	(C)
Net Revenues over Expenditures Total	L76	$57,770,604.00	$7,606,827.00	$65,377,431	(C)

Schedule A

REVENUES AND EXPENDITURES SUMMARY

University of Massachusetts Medical School (195)

Fiscal Year 2009-10

	Recorded in Medical School Accounts	Not Recorded in Medical School Accounts	Total
REVENUES:			
M.D. program tuition and fees	$3,676,951	$3,394,138	$7,071,089
Other tuition and fees	$7,018,225	$78,098	$7,096,323
Total Tuition and Fees	$10,695,176	$3,472,236	$14,167,412
Federal Appropriations	$0	$0	$0
Adjusted State and Parent Support	$50,603,967	($3,472,236)	$47,131,731
Local Appropriations	$0	$0	$0
Total Government and Parent Support	$50,603,967	($3,472,236)	$47,131,731
Grants and Contracts Direct Costs	$178,896,559	$0	$178,896,559
Facilities & Administrative Costs	$66,152,904	$0	$66,152,904
Total Grants and Contracts	$245,049,463	$0	$245,049,463
Hospital Purchased Services and Support	$24,817,537	$97,004,152	$121,821,689
Gifts Revenues	$2,952,449	$0	$2,952,449
Endowment Revenues	$2,202,313	$0	$2,202,313
Practice Plans/Other Medical Service	$0	$307,824,957	$307,824,957
Other Revenues	$527,608,744	$86,318	$527,695,062
Total Revenues	$863,929,649	$404,915,427	$1,268,845,076
Total Expenditures & Transfers	$921,700,253	$412,522,254	$1,334,222,507
Net Revenues Over Expenditures	($57,770,604)	($7,606,827)	($65,377,431)

Percent of Total Revenues

Tuition and Fees	1%
Government & Parent Support	4%
Grants & Contracts	19%
Practice Plan	24%
Hospital Support	10%
Other	42%
Total All Fund Sources	100%

Schedule B

Grants and Contracts Summary

University of Massachusetts Medical School (195)

Fiscal Year 2009-10

	Recorded in Medical School Accounts	Not Recorded in Medical School Accounts	Total Medical School & Affiliates
Direct Costs			
Federal Grants and Contracts			
Organized Research	$109,606,822	$0	$109,606,822
Training/Instruction	$864,592	$0	$864,592
Other Sponsored Activities	$2,227,126	$0	$2,227,126
Total Federal Grants and Contracts Direct Costs	$112,698,540	$0	$112,698,540
State and Local Governments	$30,785,945	$0	$30,785,945
Private/Other Grants and Contracts	$35,412,074	$0	$35,412,074
TOTAL DIRECT GRANTS AND CONTRACTS	$178,896,559	$0	$178,896,559
Facilities & Administrative Costs			
Federal Grants and Contracts			
Organized Research	$53,636,766	$0	$53,636,766
Training/Instruction	$44,981	$0	$44,981
Other Sponsored Activities	$238,025	$0	$238,025
Total Federal Grants and Contracts F&A Costs	$53,919,772	$0	$53,919,772
State and Local Governments	$3,201,744	$0	$3,201,744
Private/Other Grants and Contracts	$9,031,388	$0	$9,031,388
TOTAL F&A (INDIRECT) COSTS	$66,152,904	$0	$66,152,904
TOTAL GRANTS AND CONTRACTS	**$245,049,463**	**$0**	**$245,049,463**

LCME Part I-A Annual Financial Questionnaire on Medical School Financing

chedule C

ractice Plans and Other Medical Services
iversity of Massachusetts Medical School (195)
scal Year 2009-10

ient Care Gross Charges

mmercial	$493,892,230
dicare	$200,812,431
dicaid	$116,058,544
f-pay	$27,095,626
er	$217,930
TOTAL GROSS CHARGES	$838,076,761

Adjustments & Allowances

Charity Care	$22,711,363
Bad Debt	$15,104,197
Medicare	$0
Medicaid	$0
All Other	$528,645,327
TOTAL NET ADJUSTMENTS & ALLOWANCES	$566,460,887

venues

ient Care Revenues		
mmercial		$0
dicare		
ledicare Fee-for-Service	$0	
ledicare Other	$0	$0
dicaid		$17,227,479
f-pay		$0
her		$271,615,874
Total Patient Care Revenues		$288,843,353
btotal Practice Plan Revenues		$404,829,109
Less Hospital Revenues Transferred to Practice Plan		$97,004,152
OTAL PRACTICE PLAN NET REVENUES *		$307,824,957

Other Revenues	
Contracts (non-hospital)	$13,361,982
Other Operating Revenues	$5,619,822
	$18,981,804
Revenues from Hospitals	$97,004,152

Expenses

xes and Transfers		
ledical School Support (Dean's Tax)	$0	
ther Med School Taxes/Support	$11,555,100	
epartmental Support	$843,144	
axes/Support (Parent University)	$0	
axes/Support (Univ Hosp)	$0	
axes/Support (Affiliated Hosp)	$0	$12,398,244
mpensation		
hysician Salary & Benefits	$240,202,548	
ther Compensation	$101,393,602	$341,596,150
her Operating Expenses		$58,527,860
btotal Practice Plan Expenditures & Transfers		$412,522,254
Less Expenditures Supported by Hospital Revenues		$97,004,152
OTAL PRACTICE PLAN NET EXPENSES *		$315,518,102
ET REVENUE OVER EXPENSES		-$7,693,145

Excludes $97,004,152 of revenues and associated expenditures from affiliated hospitals

Schedule O

Hospital Services and Support

University of Massachusetts Medical School (195)

Fiscal Year 2009-10

	Recorded	Not Recorded	Total
University Hospitals			
Purchased Services			
Payments to medical school	$0		$0
Payments to faculty practice plan	$0	$0	$0
Direct payments by university hospitals		$0	$0
Total Purchased Services	$0	$0	$0
Housestaff Stipends	$0	$0	$0
Hospital Investments in the Clinical Enterprise	$0	$0	$0
Strategic Support for Medical School Programs	$0	$0	$0
Total University Hospitals	**$0**	**$0**	**$0**
Veterans Admin Hospitals			
Purchased Services			
Payments to medical school	$0		$0
Payments to faculty practice plan	$0	$0	$0
Direct payments by VA hospitals		$0	$0
Total Purchased Services	$0	$0	$0
Resident and Fellow Stipends	$0	$0	$0
Hospital Investments in the Clinical Enterprise	$0	$0	$0
Strategic Support for Medical School Programs	$0	$0	$0
Total Veterans Admin Hospitals	**$0**	**$0**	**$0**
Other Affiliated Hospitals			
Purchased Services			
Payments to medical school	$22,292,541		$22,292,541
Payments to faculty practice plan	$0	$97,004,152	$97,004,152
Direct payments by other affiliated hospitals		$0	$0
Total Purchased Services	$22,292,541	$97,004,152	$119,296,693
Resident and Fellow Stipends	$2,524,996	$0	$2,524,996
Hospital Investments in the Clinical Enterprise	$0	$0	$0
Strategic Support for Medical School Programs	$0	$0	$0
Total Other Affiliated Hospitals	**$24,817,537**	**$97,004,152**	**$121,821,689**
TOTAL HOSPITAL PURCHASED SERVICES AND SUPPORT	**$24,817,537**	**$97,004,152**	**$121,821,689**
Total Strategic Support of Medical School Programs	$0	$0	$0

Schedule E

Government and Parent University Support

University of Massachusetts Medical School (195)

Fiscal Year 2009-10

Support for General Operations of the Medical School		
Federal Support	$0	
State and Parent Support	$47,066,857	
Local Support	$0	
		$47,066,857
Institutional support (medical school's share of parent university's central support costs)		$0
Total Support for General Operations		**$47,066,857**
Less funds generated by the medical school but retained by the parent and/or state (includes parent assessments)		-$3,472,236
Total Adjusted Operating Support		**$43,594,621**

Special Appropriations		
Special Federal Appropriations	$0	
Special State Appropriations	$3,537,110	
Special Local Appropriations	$0	
Total Special Appropriations and Allocations		**$3,537,110**
TOTAL ADJUSTED GOVERNMENT & PARENT UNIVERSITY SUPPORT		**$47,131,731**

LIAISON COMMITTEE ON MEDICAL EDUCATION

LCME Part I-A Annual Financial Questionnaire on Medical School Financing

Revenues and Expenditures History

University of Massachusetts Medical School (195)

Five-Year History

REVENUES:	FISCAL YEAR 2006	FISCAL YEAR 2007	FISCAL YEAR 2008	FISCAL YEAR 2009	FISCAL YEAR 2010	This Year vs Last Year	5-Year Annualized Growth Rate
Tuition and Fees:							
Medical Students	$5,102,058	$4,583,747	$5,605,453	$6,479,554	$7,071,089	$591,535	8.50%
Other Students	6,746,678	6,614,602	4,887,548	5,094,399	7,096,323	2,001,933	1.27%
Total Tuition and Fees	$11,848,736	$11,198,349	$10,693,000	$11,573,944	$14,167,412	$2,593,468	4.57%
Government and Parent Support:							
Federal Appropriations	$0	$0	$0	$0	$0	$0	
Adjusted State and Parent Support	40,772,521	48,948,877	49,668,382	42,693,741	47,131,731	4,437,990	3.69%
Local Appropriations	0	0	0	0	0	0	
Total Government and Parent Support	$40,772,521	$48,948,877	$49,668,382	$42,693,741	$47,131,731	$4,437,990	3.69%
Grants and Contracts:							
Federal Direct	$88,916,580	$85,677,473	$91,353,400	$90,241,966	$112,886,540	$22,456,574	6.10%
State & Local Direct	13,081,378	30,417,706	34,047,502	38,463,408	30,785,948	(7,697,464)	1.77%
Private Direct	25,680,236	12,618,084	31,002,886	34,178,414	35,412,074	1,233,660	8.38%
Facilities & Admin (Indirect)	50,814,063	48,944,314	57,272,941	58,236,810	66,152,904	7,916,094	6.82%
Total Grants and Contracts	$198,472,254	$197,657,541	$213,676,708	$221,140,598	$245,049,463	$23,908,864	5.41%
Practice Plans/Other Medical Services	$218,170,993	$261,519,436	$269,676,505	$294,209,927	$307,824,957	$13,615,030	8.99%
Hospitals:							
University Owned	$0	$0	$0	$0	$0	$0	
Veterans Administration	0	0	0	0	$0	0	
Other Affiliated Hospitals	85,840,540	90,556,114	105,841,084	120,402,606	$121,821,689	1,419,083	9.15%
Total Hospital Revenues	$85,840,540	$90,556,114	$105,841,084	$120,402,606	$121,821,689	$1,419,083	9.15%
Gifts	$4,282,493	$3,068,484	$3,527,110	$4,702,873	12,952,449	($1,750,224)	-6.66%
Endowment Income	$1,058,603	$1,280,850	$1,578,160	$1,213,632	12,202,313	988,681	20.10%
Other Revenues	$461,712,249	$552,703,731	$438,629,801	$514,879,517	$527,696,082	12,815,548	3.40%
TOTAL REVENUES	$1,022,158,388	$1,166,948,182	$1,093,288,730	$1,210,816,838	$1,268,845,078	$58,028,437	5.55%
TOTAL EXPENDITURES & TRANSFERS	$1,023,133,850	$1,139,759,073	$1,092,326,287	$1,221,172,717	$1,334,222,507	$113,049,790	6.66%
NET REVENUES OVER EXPENDITURES	($975,462)	$27,189,109	$962,443	($10,355,878)	($88,377,431)	-$55,021,353	
Change		$28,164,571	$26,226,666)	($11,318,321)	($55,021,353)		

ER-2i LCME Part I-A Annual Financial Questionaire, 11-2010

AAMC #2010-118

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TEACHING FACILITIES

Building: UMass Medical School –University Campus – Worcester, MA		
Year Constructed: 1970	Year of Last Major Renovation: 2005	
Type of Room*	Seating Capacity	Main Educational Use(s)**
Amphitheater s – (3)	175-210	Lecture
Amphitheaters – (2)	95-115	Lecture
Lecture Hall (1)	40-80	Lecture
Lecture Hall (1)	30-60	Lecture
Lecture Hall (4)	30-45	Lecture, small group discussion
Conference (2)	37	Lecture, small group discussion
Conference (6)	20-30	Small group discussion
Conference (8)	16-18	Small group discussion
Computer Lab (1)	16	Lecture
Conference Room (7)	12	Small Group Discussions
Anatomy Lab (Science Lab)	135 (Growth Space available)	Wet Labs, Dissection, Slide Study
ITLC (Science Lab)	140-150	Flexible Space – Lecture, group study, dry lab, slide study & conference
Simulation Center	12	Science Lab (Skills)
Surgery Simulation	25	Science Lab (Skills)
Standardized Patient	11	Science Lab (Skills)
Student Clinical Skills Lab	13	Science Lab (Skills)

FACULTY OFFICES AND RESEARCH LABS

Department Name	# Offices	Total Net Sq. Ft (Offices)	#Research Labs	Total Net Sq. Ft (Labs)
Anesthesiology	20	2,994	5	2,324
Biochemistry & Molecular Pharmacology	33	4,099	78	30,124
Cancer Biology	17	1,951	45	14,285
Cell Biology	35	4,620	44	20,638
Emergency Medicine	22	3,022	4	1,398
Family Medicine & Community Health	32	4,234	0	0
Medicine	126	16,391	105	37,699
Microbiology and Physiological System	44	6,467	103	38,330
Neurobiology	12	1,711	37	13,060
Neurology	33	4,748	24	8,255
Obstetrics & Gynecology	25	3,637	0	0
Ophthalmology	6	438	2	409
Orthopedics & Physical Rehabilitation	21	3,027	10	1,587
Otolaryngology	8	1,190	0	0
Pathology	14	2,091	27	14,432
Pediatrics	72	8,700	11	5,010
Program in Gene Function	20	2,449	60	21,512
Program in	31	4,421	54	33,781

Department Name	# Offices	Total Net Sq. Ft (Offices)	#Research Labs	Total Net Sq. Ft (Labs)
Molecular Medicine				
Psychiatry	67	9,431	33	11,779
Quantitative Health Sciences	15	2,070	0	0
Radiation Oncology	12	1,608	1	281
Radiology	44	6,042	15	7,049
Surgery	85	13,308	22	7,674

Summary of Clinical Teaching Sites

AY 0910 Table							
Inpatient Facility Name (list)	(Check [√])						
	Family Medicine	Internal Medicine	Ob/ Gyn	Pediatrics	Psychiatry	Surgery	Neurology
UMass Memorial Medical Center		X	X	X	X	X	X
Berkshire Medical Center		X	X		X	X	X
Milford Regional Medical Center		X	X	X			X
St. Vincent Hospital		X	X			X	X
St. Elizabeth's Medical Center			X			X	
Marlborough Hospital		X			X		
Harrington Memorial Hospital					X		
HealthAlliance Hospital*					X		
Providence Behavioral Hospital					X		
Worcester State Hospital					X		
Westborough State Hospital*					X		
Lahey Clinic							X

Sites added after 09-10							
Baystate Medical Center				X			
Holyoke Medical Center			X				

UMass Memorial Medical Center, University Campus
Name of Chief Executive Officer: Dr. Walter Ettinger
Year Appointed: 2004

Number of beds	391
Average occupancy rate	84%
Average length of stay	5.34 days
Number of annual admissions	23.543
Number of outpatient visits/year	376,508
Number of ER visits per year	90,665

Clinical Service	# of Beds	Average Daily Census	# of Students per Rotation	
			The School's Medical Students	Visiting Medical Students
Family Medicine	185	163.29	13	0
Internal Medicine				
Obstetrics/Gynecology	48	26.81	9-15	0
Pediatrics	51	48.45	6	0
Psychiatry	107	90.76	24-25	0
Surgery			5	0
Neurology				

Facility Name: UMass Memorial Medical Center, Memorial Campus

Number of beds	356
Average occupancy rate	74.2%
Average length of stay	4.34 days
Number of annual admissions	22,299
Number of outpatient visits/year	154,152
Number of ER visits per year	47,130

Clinical Service	# of Beds	Average Daily Census	# of Students per Rotation	
			The School's Medical Students	Visiting Medical Students
Family Medicine	21	18.51		
Internal Medicine	89	75.45		
Obstetrics/Gynecology	155*	103.01	7	0
Pediatrics				
Psychiatry				
Surgery	91	67.28		
Neurology				

*includes bassinettes and NICU

Facility Name: Berkshire Medical Center
Name of Chief Executive Officer: David Phelps
Year Appointed: 1993

Number of beds	302
Average occupancy rate	59.53%
Average length of stay	5.4 days
Number of annual admissions	12,071
Number of outpatient visits/year	138,982
Number of ER visits per year	56,179

Clinical Service	# of Beds	Average Daily Census	# of Students per Rotation	
			The School's Medical Students	Visiting Medical Students
Family Medicine	N/A			
Internal Medicine	199	118	4	1
Obstetrics/Gynecology	15	5	2*	1
Pediatrics	16	1		
Psychiatry	35	25	2	1
Surgery	37	30	3-4	1
Neurology			1	0

*1 student as of 7-1-10

Facility Name: Milford Regional Medical Center
Name of Chief Executive Officer: Francis Saba
Year Appointed: 1990

Number of beds	136
Average occupancy rate	69%
Average length of stay	4.1 days
Number of annual admissions	8,463
Number of outpatient visits/year	34,539
Number of ER visits per year	55,052

Clinical Service	# of Beds	Average Daily Census	# of Students per Rotation	
			The School's Medical Students	Visiting Medical Students
Family Medicine	N/A			
Internal Medicine	77	70.8	8	0
Obstetrics/Gynecology	14	8.2	2*	0
Pediatrics	10	0.5		0
Psychiatry	N/A			
Surgery	20	12.0		
Neurology			1	0

*Increased to 2-3 as of 7-1-10

Facility Name: St. Vincent Hospital
Name of Chief Executive Officer: Eric Wexler
Year Appointed: July 2011

Number of beds	321
Average occupancy rate	61%
Average length of stay	4.08 days
Number of annual admissions	17,559
Number of outpatient visits/year	232,678
Number of ER visits per year	61,850

Clinical Service	# of Beds	Average Daily Census	# of Students per Rotation	
			The School's Medical Students	Visiting Medical Students
Family Medicine	*			
Internal Medicine*			10	0
Obstetrics/Gynecology*			2	0
Pediatrics*				
Psychiatry	51			
Surgery*			8	2-3
Neurology			3	0

*Internal Medicine + Family Medicine + Ob-Gyn + Surgery = 270 Beds with an average daily census of 174.2

Facility Name: St. Elizabeth's Medical Center
Name of Chief Executive Officer: John Polanowicz
Year Appointed: 2011

Number of beds	272
Average occupancy rate	65.1%
Average length of stay	4.5
Number of annual admissions	14,232
Number of outpatient visits/year	95,103
Number of ER visits per year	31,976

Clinical Service	# of Beds	Average Daily Census	# of Students per Rotation	
			The School's Medical Students	Visiting Medical Students
Family Medicine	109	81		
Internal Medicine	18	13	1	3
Obstetrics/Gynecology	38	16		
Pediatrics	49	37		
Psychiatry	58	31	2	6
Surgery				

Facility Name: Marlborough Hospital
Name of Chief Executive Officer: Karen Moore
Year Appointed: 2011

Number of beds	67
Average occupancy rate	77%
Average length of stay	4.2 days
Number of annual admissions	4211
Number of outpatient visits/year	17,500
Number of ER visits per year	27,782

Clinical Service	# of Beds	Average Daily Census	# of Students per Rotation	
			The School's Medical Students	Visiting Medical Students
Family Medicine				
Internal Medicine*			4	0
Obstetrics/Gynecology				
Pediatrics				
Psychiatry	22	17	2	0
Surgery*				

*Internal Medicine + Surgery = 67 beds with an average daily census of 32.

Facility Name: Harrington Memorial Hospital
Name of Chief Executive Officer: Edward Moore
Year Appointed: 2007

Number of beds	114
Average occupancy rate	71.8%
Average length of stay	4.2 days
Number of annual admissions	3,764 (5,752 including observations)
Number of outpatient visits/year	283,849
Number of ER visits per year	35,390

Clinical Service	# of Beds	Average Daily Census	# of Students per Rotation	
			The School's Medical Students	Visiting Medical Students
Family Medicine				
Internal Medicine	56	82%		
Obstetrics/Gynecology	10	46%		
Pediatrics	12	45%		
Psychiatry	14	7%		
Surgery				

Facility Name: HealthAlliance Hospital
Name of Chief Executive Officer: Patrick Muldoon
Year Appointed: 2004

Number of beds	171 (150 beds and 21 bassinets)
Average occupancy rate	58.8% (excludes nursery)
Average length of stay	4.01
Number of annual admissions	8,631
Number of outpatient visits/year	204,971
Number of ER visits per year	60,420

Clinical Service	# of Beds	Average Daily Census	# of Students per Rotation	
			The School's Medical Students	Visiting Medical Students
Family Medicine	80	61.57		
Internal Medicine	19	7.44		
Obstetrics/Gynecology	21	6.67		
Pediatrics	11	2.10		
Psychiatry	15	8.06		
Surgery	25	9.02		

Facility Name: Providence Behavioral Health Hospital
Name of Chief Executive Officer: Daniel Moen
Year Appointed: 2011

Number of beds	126
Average occupancy rate	86.1%
Average length of stay	8.88 days
Number of annual admissions	4,460
Number of outpatient visits/year	375,659
Number of ER visits per year	10,846

Clinical Service	# of Beds	Average Daily Census	# of Students per Rotation	
			The School's Medical Students	Visiting Medical Students
Family Medicine				
Internal Medicine				
Obstetrics/Gynecology				
Pediatrics			1	0
Psychiatry	126			
Surgery				

Facility Name: Worcester State Hospital
Name of Chief Executive Officer: Anne Scott (Department of Mental Health Area Coordinator)
Year Appointed: 2010

Number of beds	166
Average occupancy rate	90%
Average length of stay	170.9 days (continuing care)
Number of annual admissions	355
Number of outpatient visits/year	0
Number of ER visits per year	0

Clinical Service	# of Beds	Average Daily Census	# of Students per Rotation	
			The School's Medical Students	Visiting Medical Students
Family Medicine				
Internal Medicine				
Obstetrics/Gynecology				
Pediatrics				
Psychiatry	166	90%	2	1
Surgery				

Facility Name: Lahey Clinic
Name of Chief Executive Officer: Dr. Howard Grant
Year Appointed: 2010

Number of beds	327
Average occupancy rate	83.35%
Average length of stay	4.67 days
Number of annual admissions	22,004
Number of outpatient visits/year	991,988
Number of ER visits per year	52,314

Clinical Service	# of Beds	Average Daily Census	# of Students per Rotation	
			The School's Medical Students	Visiting Medical Students
Family Medicine*				
Internal Medicine*				
Obstetrics/Gynecology*				
Pediatrics*				
Psychiatry*				
Surgery*				
Neurology*			1	

*Beds are not broken out by specialty so specific data are not available.

AMBULATORY SITES

Preceptoral Sites (32 sites*)		Site Type**: Physician Offices	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Family Medicine	AY 2010	6	1 per rotation site

UMass Memorial Medical Center (Family Medicine Health Services, Benedict bldg.)		Site Type**: Physician Offices	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Family Medicine	AY 2010	6	2

UMass Memorial Medical Center (Hahnemann Campus)		Site Type**: Physician Offices	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Family Medicine	AY 2010	6	1-2

Barre Health Center		Site Type**: Health Center	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Family Medicine	AY 2010	6	1-2

Site Name: Greater Lawrence Family Health Center		Site Type**: Health Center	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Family Medicine	AY 2010	6	1-2

Greater Brook Valley Family Health Center (renamed Edward M. Kennedy Community Health Center)		Site Type**: Health Center	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Family Medicine	AY 2010	6	1-2

Family Health Center of Worcester		Site Type**: Health Center	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Family Medicine	AY 2010	6	1-2

Community Health Connections, Fitchburg		Site Type**: Health Center	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Family Medicine	AY 2010	6	1-2

Preceptoral Sites (32 separate sites*)		Site Type**: Physician Offices	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Family Medicine	AY 2010	6	1

Preceptoral Sites (11 separate sites*)		Site Type**: Physician Offices	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Psychiatry	AY 2010	6	1 per rotation per site

Preceptoral Sites: (45 offices*)		Site Type**: Physician Offices	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Medicine	AY 2010	4	1-2

Note: Ob-Gyn is a 6-week rotation of which some 2 weeks are spent in physician offices, listed below.

UMass Memorial Medical Center		Site Type**: Physician Offices	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Ob-Gyn	AY 2010	2	7

St. Vincent Hospital		Site Type**: Physician Offices	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Ob-Gyn	AY 2010	2	2

Milford Regional Medical Center		Site Type**: Physician Offices	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Ob-Gyn	AY 2010	2	2

Berkshire Medical Center		Site Type**: Physician Offices	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Ob-Gyn	AY 2010	2	2

St. Elizabeth's Medical Center		Site Type**: Physician Offices	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Ob-Gyn	AY 2010	2	1

UMass Memorial Medical Center		Site Type**: Physician Offices	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Neurology	AY 2010	1-2	5

St. Vincent Hospital		Site Type**: Physician Offices	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Neurology	AY 2010	1-2	3

Lahey Clinic		Site Type**: Physician Offices	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Neurology	AY 2010	1-2	1

Milford Regional Medical Center		Site Type**: Physician Offices	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Neurology	AY 2010	1-2	1

Berkshire Medical Center		Site Type**: Physician Offices	
Course or Clerkship Rotation Offered	Academic Period (Year) When Offered	Duration (Weeks)	# of Students per Rotation
Neurology	AY 2010	1-2	1

*If groups of doctors' offices or preceptorial sites are used, list the total number of such sites used for a given required experience.

**Stand-alone clinic, private offices, etc.

LIBRARY AND INFORMATION TECHNOLOGY SERVICES UNITS

	Library	IT
Total user seating	440	0
Number of small-group study rooms	9	0 (for public)
Number of public workstations	86 PCs and Macs; 30 laptops	0
Number of computer classrooms	1	1+*
Number of computers or workstations in computer classrooms	17	18 20
Ubiquitous network in library spaces (Yes or No)	Yes	
Wireless network in classrooms and study spaces? (Yes or No)	Yes	

LIBRARY HOLDINGS

	FY10	FY09	FY08
	Current Academic Year	One Year Prior	Two Years Prior
Total current journal subscriptions (all formats)	5,302	5,089	4,140
Total journal subscriptions (print only)	94	120	175
Number of book titles (all formats)	39,749	40,640	48,503
Number of book titles (print only)	39,049	40,290	48,253
Number of databases	404	375	365
Number of external documents provided to users	1,093	1309	1,400
Total collection expenditures	3,186,418	3,204,585	2,962,156

STAFFING FOR LIBRARY AND INFORMATION TECHNOLOGY SERVICE

	Library Services	Information Services
Number of professional staff	16.65	165
Number of technical and paraprofessional staff	9.5	
Number of clerical support staff	1.75	6
Number of student or hourly support staff	.65	
RML and grant support staff not included		