LCME Self Study
Educational Resources
Subcommittee Report

LCME
Self-Study

V. Educational Resources

A. Finances

1. *Discuss the appropriateness of the balance between the various sources of financial support for the school (i.e., state and local appropriations, income from patient care, endowments, tuition income, research income, hospital revenues). Are revenue sources stable? How do you view the financial prospects for the medical school over the next five years? Are there any departments in financial difficulty? Are there systems/policies in place to address departmental financial difficulties?*

The Medical School's current sources of revenues are reasonable and reflect a large public medical school with growing success as a research institution in a major metropolitan area. As depicted in Figure 1 (page 6.), the FY06 revenue sources for the UMSOM compare favorably with the distribution of resource for the average public medical school (FY05), as categorized in the AAMC annual LCME Financial questionnaire.

The UMSOM has nearly twice the annual revenue of the average Public Medical School. This is largely due to the success of the school in attracting and maintaining external support. Annual grant and contract funding in FY06 was $299 million and represented 42% of total revenues. Given the current NIH environment, there is of course some annual risk associated with this funding. However, overall grants and contracts are diversified across the UMSOM missions and among several sources, including State of Maryland contracts for both research and clinical services, VA funded research, NIH grants, large NIH contracts, privately funded research, and clinical activities.

The State funding appropriation, as reported in the FY06 LCME survey is 11.7% or $82 million annually. However, this total includes a significant allocation of campus overhead which is not controlled by the medical school. The allocation of direct State support, excluding the transfer of a State contract, to the UMSOM in FY06 was $28.4 million. In FY02 the comparable allocation of direct support was $31 million. In order to offset this absolute and inflationary decline, the SOM has become more efficient in organizing and delivering support services. However, it is increasingly difficult to cover the annual costs of a major education and clinical enterprise, much less inflation and potential reductions in NIH funding, without additional State support.

Tuition and fees are similar to other medical schools and account for only 2% of total revenues. Increases in medical school tuition and fees were held to 3% in both FY06 and FY07 and 5% for in-state and 8% for out of state for the FY2008.

Gift and endowment revenues (classified by annual expenditures) comprised 2% of total revenues. Overall philanthropic support of the University of Maryland School of Medicine has increased significantly in recent years, with the School of Medicine now receiving in excess of $40 million in new gifts and pledges each year. The size of the School of Medicine's overall endowment has eclipsed $162 million in market value, with $26 million (16 percent) of this amount being designated for medical student scholarships, awards and loan funds. In May 2007, the School of Medicine hosted its first Scholarships & Awards ceremony in which 85 scholarships and awards established through philanthropic gifts were awarded to 253 students.

Currently, nearly one-third of all School of Medicine scholarship awards are funded through philanthropic gifts from nearly 400 donors. Such philanthropic support enables more students to pursue a medical education because of such sources of financial aid. The number of endowed chairs and professorships established through philanthropic gifts to the UMSOM is currently 41, 20 of which have been established since 2000. These generous endowments enable our most exceptional faculty members to maximize the amount of time they can focus on educating the next generation of physicians and medical scientists. Our philanthropic enterprise has become increasingly more important in enabling us to pursue our mission educating medical students. Failure to enhance this income stream to the UMSOM could severely curtail important school activities and missions, including education.

Hospital program revenues (see Figure 1, p.6) appear considerably larger as a percentage than the median for public medical schools. The first reason is the close and ongoing relationship with the VA hospital, located on the UM campus. VA clinical service support for faculty and residents totaled $19 million in FY06. Secondly, the primary teaching and clinical care affiliate, UMMC, has expanded over the last five years. Net patient care revenues for UMMC (a separate non-for-profit entity) in FY02 were $622 million and in FY06 had grown to $930 million. This growth is partially a result of joint clinical investment and management. This growth is reflected in increasing support from UMMC in our comparative pie chart under hospital program revenues.

The Medical School has a separately incorporated Practice Plan, University Physicians, Inc. (UPI). Revenues have grown at an annualized 6.6% per year since FY2002 and in FY2006 totaled $160 million. This source of revenue is less on a percentage basis than the median for public medical schools, which is not surprising given the size of the full-time faculty and their focus on education and research activities. Of concern, the Baltimore physician payor market has some of the lowest contract reimbursement rates in the country. Despite these constraints, the SOM expects continued growth in this revenue through program expansion and clinical contract opportunities.

In order to identify departments and/or programs that may experience temporary financial difficulties, a formal review and remediation process occurs on an ongoing basis. The Fiscal Affairs Advisory Committee (FAAC), comprised of chairs and fiscal affairs representatives from the Dean's office, reviews the all-funds budgets for each department and/or program in the SOM. This has been fully implemented since the last LCME site visit and has provided, among other things, an "early warning system" that did not exist in the past. The FAAC, working with each department, then recommends potential remediation plans to the Dean. The Dean approves the overall budget (across all missions) for the year. Financial reports based on actual results, as well as year-end projections, are monitored directly by the Dean on a monthly basis, with personal comments on performance sent to the Chairs and Program directors. The Dean sets clear financial objectives for each department/program.

There are some departments and programs which on a temporary basis (1-2 years) experience financial difficulties, but no one department has experienced chronic (more than three years) problems. In the annual budget process, when financial shortfalls are identified, an action plan is developed with the Chair and implemented. In some cases it may take between 12 and 24 months for a department to return to financial stability. During this period, the Dean's Office will often provide transition support to ensure that all missions are appropriately support.

Overall, the revenues of the Medical School are stable and future increases, although at lesser rates than in recent years, are anticipated. The annualized growth rate per year over the last five years was 8.7%. Of note, during this period of expanding revenues, the UMSOM has been able to improve its overall balance (i.e. improving liquid assets). The UMSOM is well positioned to finance strategic expansion as well as sustain high-quality programs. However, future investments must be carefully evaluated to fully understand their initial requirements, as well as the resources necessary to sustain the program in the future. The investments necessary for sustaining a high-quality medical education program must continue to be recognized as high-priority in resource allocation.

2. *Comment on the degree to which pressures to generate revenue (from tuition, patient care or research funding) affect the desired balance of activities of faculty members. If so, what mechanisms are in place to protect the accomplishment of the educational mission?*

Medical education is under intense pressure nationwide, where patient care and research demands increasingly compete with education for faculty time. Unfortunately, this comes at a time when the demands of preparing future physicians for the complexities and ambiguities of modern medical practice have never been greater. The University of Maryland School of Medicine has not escaped these trends. We recently surveyed Chairs and Division Heads, and 17 of 23 respondents said that pressures to generate revenue significantly or very significantly affected teaching activities of faculty members. Their responses suggest that the pressure make faculty hesitant to spend time teaching; while teaching is valued, the reward structure is perceived to depend on grant or clinical productivity with little reward for good teaching. There is concurrence that the medical student educational programs are currently excellent and we should continue current efforts, but it is important that teaching be valued (more financial support) and rewarded through direct salary support as well as more impact for promotion and tenure.

It is fully recognized that our philanthropy enterprise (as detailed above) is becoming increasingly more important in enabling us to pursue our mission of educating the next generation.

Since 2005, the Medical Education AC (MEAC) led by the Vice Dean for Academic Affairs and composed of Associate and Assistant Deans involved with medical education, has met weekly to identify, review and resolve student and curricular resource issues that arise during the year.

3. *Describe how the school has positioned the clinical enterprise (faculty practice plan/organization and structure of healthcare system) for best results in the local health care environment. Is planning related to the clinical enterprise occurring?*

Under Dr. Reece's tenure, in particular, the School of Medicine has taken aggressive steps to position the School of Medicine's clinical enterprise for success in the future. Dr. Reece has worked very closely with the leadership of the University of Maryland Medical System and the University of Maryland Medical Center to forge and progressively enhance a strong partnership. The Dean, Chairs and other key clinical personnel are currently participating in a formal Medical Center planning process to develop a 5-year strategic clinical plan.

Ambulatory and inpatient volumes across the downtown medical campus have grown in each of the last three years. As programs succeed, the Medical School and Medical Center are challenged to become more efficient in the utilization of existing space and look for expansion

opportunities. The Medical Center, together with the School, is currently finalizing the clinical program plan for a new patient care building on campus. The first phase of the building, additional patient parking, is underway, while the clinical program planning for the rest of the building is finalized. The initial design is for an eight story building covering most of one city block. There is consensus that with this additional space, the School and Medical Center will be well positioned for continued clinical success in the magnet areas identified in Dr. Reece's clinical vision.

The clinical practices of the Medical School are organized under a separately incorporated practice plan, University Physicians, Inc. (UPI). In addition to the joint planning of clinical programs with UMMC, there is also a unified approach to clinical program planning for all of University Physicians. Clinical opportunities with other healthcare institutions across the State are vetted through the Clinical Affairs Advisory Committee. Through this process additional clinical opportunities, beyond the program of initial contact, are often identified. This process also allows for consistent contracting for faculty physician services.
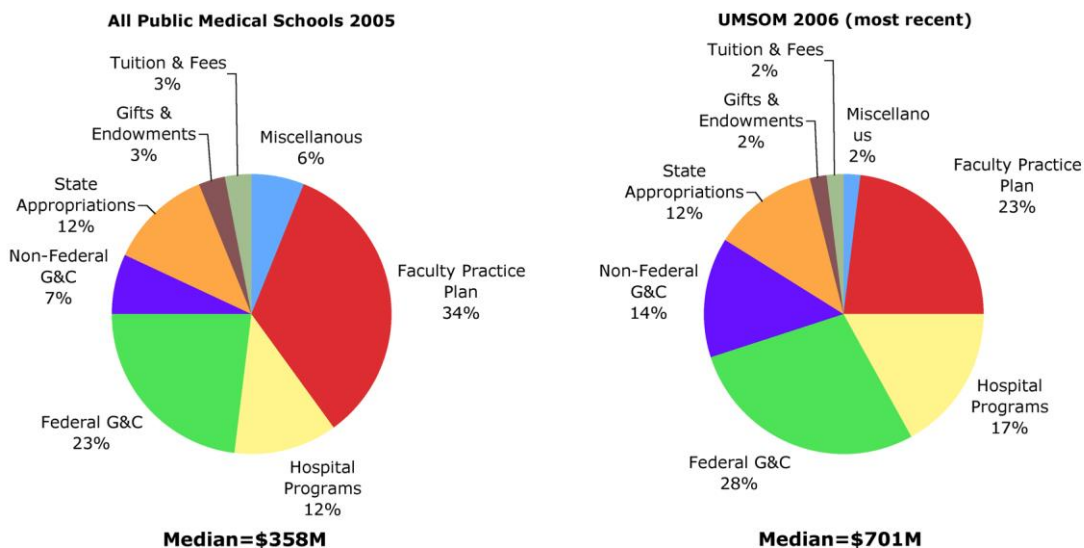
4. *Describe how present and future capital needs are being addressed. Is the financial condition of the school such that these needs can be met?*

The present and future capital needs of the School of Medicine are being addressed, however the primary difficulty, space for expanding programs or renovated space, continues to be a challenge. This challenge presents itself across all missions of the institution. The SOM Dean's Office separately budgets funds annually to support renovation projects, however the list of projects continues to grow. Two of the Medical School's primary buildings (the Medical School Teaching Facility and Bressler Research Building) are now over 30 years old.

The Medical School has been able to utilize the new UMB Biopark located adjacent to the campus to strategically expand research programs. Without this space, the Center for Vascular Biology and Inflammatory Diseases and the new Institute for Genome Science would not have been possible.

Several departments have an acute need for faculty office space. Due to the success of many clinical programs, both office and patient care space has become limited at UMMC's existing facilities. The Medical School often only has space to replace existing faculty, not expand the complement of faculty. The new patient care building described above in question 2 will provide some relief in the form of backfill space, once programs move to the new facility. The Medical School is working with campus and State officials to secure the funding for a third Health Sciences building (HSFIII). This building will provide 261,000 net assignable square feet (nasf) of new and replacement research and office space. The second building, HSFII, was completed in 2003.

The Medical School allocates an increasing percentage of the annual budget to meet the growing capital demands. The Medical School is confident that between their annual investments, as well as those of the campus and UMMC, the capital requirements will continue to be met across all missions.

All Public Medical Schools 2005

Tuition & Fees 3%
Gifts & Endowments 3%
Miscellanous 6%
State Appropriations 12%
Non-Federal G&C 7%
Faculty Practice Plan 34%
Federal G&C 23%
Hospital Programs 12%

Median=$358M

UMSOM 2006 (most recent)

Tuition & Fees 2%
Gifts & Endowments 2%
Miscellanous 2%
State Appropriations 12%
Non-Federal G&C 14%
Faculty Practice Plan 23%
Hospital Programs 17%
Federal G&C 28%

Median=$701M

Figure 1.

B. General Facilities

5. *Evaluate the adequacy of the general facilities for teaching, research, and service activities of the medical school. Is the opportunity for educational excellence or educational change (e.g., introduction of small group teaching) or for the attainment of other medical school missions constrained by space concerns? is there planning occurring to address any need for additional space?*

Over the past several years, the University of Maryland School of Medicine has continued to strive to provide and maintain a working and educational environment that is accessible, comfortable, and conducive to study and learning. The School's physical facilities for teaching, research, and service are considered very adequate to achieve the mission of the institution.

During the past seven-to-eight years, the School's teaching facilities have continued to improve. All new teaching facilities were designed and constructed with state-of-the-art audio/visual capabilities and data connections. Through the generous donations of an alumnus and family, we have renovated an older lecture hall, the Freshman Lecture Hall, which has been renamed the "Taylor Lecture Hall," to reflect the donor's name. This lecture facility, which accommodates up to 170 students, was completely redesigned to provide the type of teaching environment that is needed to carry out the current curriculum, especially the use of laptop computers and wireless connectivity in real-time during teaching activities. An additional lecture hall that can accommodate up to 103 individuals, as well as several conference and seminar rooms for groups of 15 to 20, were constructed in the new Health Sciences Facility II building that was completed in 2005.We also have initiated plans to renovate and upgrade the former Sophomore Lecture Hall, which has been renamed the Dr. Elizabeth C. Hosick Lecture Hall. Through an initial contribution from Dr. Hosick, the lecture hall is scheduled to be transformed into a state-of-the-art facility similar to the Taylor Lecture Hall.

Our largest auditorium in the Medical School Teaching Facility (MSTF) can accommodate 612 individuals and provides 9,300 square feet of teaching space. With the changes in the School's curriculum over the years, our dependence on the use of this facility has significantly diminished. The facility is still used for occasional lectures and other special events which require a larger seating capacity, such as our "White Coat" ceremony, mini-medical school, and the Dean's State-

of-the-School of Medicine Address. Although not integral to day-to-day medical student education, it requires a major upgrade as it is the largest auditorium available to the SOM.

Since the last LCME site visit, the UMSOM, in conjunction with the School of Nursing, has built and staffed an excellent Standardized Patient facility. For the last four years, the standardized patients and cases are used in all four years of medical school education, including a high stakes OSCE during the fourth year. . This six-station facility is being expanded to accommodate ten examination rooms. The Standardized Patient facility is active in a Baltimore-Washington consortium of medical schools to provide well-trained standardized patients and cases.

Through donations by parents, 4,600 square feet of second-floor MSTF space have been converted into a student lounge area, which opened in 2006. A new Campus Student Center is currently under construction, anticipated to open in 2009. Ongoing improvements have been made to medical student laboratory teaching areas, including the gross anatomy labs and the multidisciplinary teaching laboratories. We are currently reaching the maximum capacity for several of the teaching facilities, which can accommodate an upper limit of 160–170 medical students.

Currently, the UMSOM has adequate facilities to carry out its research mission. Given the significant growth pattern in research, there has been and continues to be demand to improve older research space and to expand our available research space inventory. There is a current inventory of 777,750 nasf. Included in this is the existing Health Science Facility I (HSFI), which incorporates 82,360 nasf of research, office, and teaching space, and Health Science Facility II (HSF II), which incorporates 72,450 nasf in basic research wet lab, biosafety level 3 containment area, and an NMR facility. A facility renewal project is underway to refurbish the infrastructure in the Bressler Research Building (179,200 nasf). The project will involve upgrading the HVAC systems for individual floors. Over the past 5 years, several floors in the Bressler Research Building have been either partially or completely renovated. The 9th and 10th floors combined were completely renovated and provide 25,000 square feet of new office, conference, laboratory and laboratory support space. Extensive work has been completed to refurbish many of the laboratories and laboratory support spaces on the 7th, 11th, 12th, and 13th floors.

To address the continued growth of the School's research, preparations are underway for Health Sciences Facility III (HSF III). The HSF III project, to be located on the site of the old Dental School, will provide 261,025 nasf of new and replacement research and office space. Preliminary planning has occurred, and State and local officials are supportive as the facility is estimated to have positive economic impact for the region.

In addition, the newly constructed UMB BioPark provides current space and also offers opportunity for School expansion. The Center for Vascular Biology and Inflammatory Diseases utilizes 29,000 nasf of office and laboratory space in Building One of this Campus endeavor, and the newly established Institute of Genome Science will occupy Building Two in the BioPark.

6. *Discuss the adequacy of security systems on each campus and at affiliated sites.*

UMB Campus: Security for students, faculty, and staff is considered adequate for the UMSOM. The School of Medicine's security is handled through the University of Maryland, Baltimore (UMB) Office of Public Safety. This office is responsible for security of the UMB Campus

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which is located on 50 acres of land that borders the western boundaries of Downtown Baltimore (Pratt, Eutaw, Hollins, and Saratoga Streets.) The University Police serves approximately 5,480 students in seven professional schools, as well as 5,148 faculty and staff members. On November 23, 1996, the Commission of Accreditation for Law Enforcement Agencies, Inc. awarded National Accreditation to the University Police. The Force has 66 sworn officers who are supported by 50 security officers, seven police communication officers, and an administrative staff of eight. Newly appointed police officers undergo 24 weeks of rigorous basic police training, as established in the Annotated Code of Maryland, Article 41-4-201.

Additionally, below is a summary of security-related programs that have been instituted to ensure that the entire campus community, including the UMSOM students, faculty and staff, is safe:

- **Student Orientation**: All new students must attend student orientation, presented by Safety Awareness Officers, on University Police authority and its services. Distribution of crime prevention literature, with safety tips to help avoid becoming a victim, is also circulated during this course.
- **Photo Identification Program**: The UMB One Card is the official University of Maryland, Baltimore Photo ID Card. In addition to serving as a means of identification, the UMB One Card provides access to many University services, such as library privileges, use of the University's athletic facilities, building, and garage access.
- **Building Access and Security**: All School of Medicine buildings have systems installed that provide controlled access with the use of an access card during normal hours, as well as off hours. Particular building entrances are also staffed with security officers, who monitor individuals entering and exiting buildings. Visitors are required to check in at each security station before accessing a building. Access is also controlled between the University Maryland Medical Center (UMMC) buildings and School of Medicine (SOM) buildings through the card access system. Several important medical student facilities, including the multidisciplinary laboratories and student lounge, are available 24/7 in a secure environment.
- **Crime Alerts**: A program has been established to notify the campus community of criminal activity that may present a threat to the public's safety. In cases of emergencies, the campus community is instructed to use the "711 Emergency Automatic Dialing" feature, when calling the police.
- **Crime Occurrence Personal Safety Line**: This feature provides recorded messages of weekly, updated crime statistics and reports of any immediate threat to the University Community.
- **Operation Property Identification**: Provides the community with the use of an engraver to mark or inscribe personal items for future identification, in the event of a crime.
- **Rape Aggression Defense (RAD)**: A program conducted by University Police as a proactive stand on violence against women and children. Two police officers are assigned to this training program.
- **Safety Awareness**: A program to create an environment which will make it difficult for the criminal element to conduct business and to create an atmosphere of awareness that reduces chances of becoming a victim.
- **Sex Offenders Registry**: There is a Sex Offender Registry in Maryland that is maintained by the Maryland Department of Public Safety and Correctional Services. Sex offenders can be queried by name, zip code, city, and address for easy access.
- **Victim/Witness Assistance**: Assist victims and witnesses with court procedures, emergency assistance, medical access, and victim impact statements.

The University offers several on- and off-campus transportation services for the safety of the campus community. Use of the Caravan, Escort Patrol Vehicle, and Intercampus Shuttle (UMBC Shuttle) is free to all students and faculty and staff members with university ID. See the Campus Transportation Guide for a quick look at these transportation services or below for more detailed information. The Police and Public Safety group also offers a 24-hour daily walking escort service. Call 410-706-6882 to request an escort.

Emergency Action Plan - Response to the Virginia Tech. Assault: The recent events involving an assault on faculty and students at VA Tech prompted the need to re-assess how this type of incident would be handled at UMB, especially as it was apparent that timely and proper communication was an issue in that incident. The UMB Campus has an emergency action plan in place to address a wide range of emergency situations which may face the Campus. This additional emergency action is under the umbrella of the **UMB Campus Emergency Management Team**, headed by the Vice President for Finance and Administration, and the Assistant Vice President for Facilities Management. Representatives from the various schools are also on the Emergency Management Team. In the event of a major emergency, the Emergency Management Team is activated. Procedures are in place for communication between the Campus leadership and the School of Medicine which involve Dean's Office internal communications, communication with School of Medicine Faculty, Staff, and Students and communication with the public.

Affiliated Sites: Security at affiliated sites has not been noted to be a problem by medical students. Clerkship directors oversee students' experience at affiliate sites including security. Mercy Medical Center, the major teaching affiliate, is considered to have adequate security by clerkship directors and the Office of Student Affairs. Since security at affiliated sites is currently not specifically covered in affiliation agreements, the Medical Education Advisory Committee and the Office of Student Affairs will review current affiliate agreements and current security systems at those affiliate sites to assure student safety.

C. Clinical Teaching Facilities

7. *Analyze the clinical resources available to the medical school. For the size of the student body, are there adequate numbers of patients and supervisors available at all sites? Is the patient mix appropriate? Are clinical facilities, equipment, and support services appropriate for exemplary patient care? Discuss the availability, quality, and sufficiency of ambulatory care facilities for teaching.*

Required third year clerkships include Family Medicine, Medicine, Neurology, Obstetrics & Gynecology, Pediatrics, Psychiatry, and Surgery. Clinical training facilities include:

MAJOR TRAINING SITES:
- University of Maryland Medical Center
- VA Medical Center in Baltimore
- Mercy Medical Center

ADDITIONAL CLERKSHIP SITES
- Walter P. Carter Center
- Spring Grove State Hospital
- Union Memorial Hospital

- Franklin Square Hospital
- St. Agnes Hospital
- University Physician's Inc.
- Pediatrics Ambulatory Care Center

Clerkship directors were queried for adequacy of adequacy of patients, patient mix, and facilities. All report an adequate number of patients for clinical education. The population is diverse by diagnosis, acuity, cultural, ethnic and socioeconomic background. Students see an appropriate range of inpatient, ambulatory, insured, underinsured and uninsured patients. One area of concern is Obstetrics and Gynecology. While overall there are sufficient numbers of obstetric and gynecologic surgical patients, patient volumes indicate that medical student teaching has reached capacity.

There are adequate numbers of supervisors on all major inpatient sites as reported by clerkship directors. There is more variation in supervisory coverage at ambulatory sites which can occasionally limit the numbers of students trained at these sites (Internal Medicine).

Clinical facilities, equipment and support services are judged to be appropriate for excellent patient care. There were no concerns noted about facilities and the ability to provide exemplary care. Clerkship directors reviewed ambulatory sites and services associated with the clerkships. All report sufficient availability and quality of these facilities for teaching. This appears particularly strong in pediatrics and neurology.

Clinical facilities will be significantly increased with the planned construction of a new clinical care facility, which will provide an opportunity to improve medical education.

8. *Describe and evaluate the interaction between the administrators of the hospitals/clinics used for teaching and the medical school administration. Does the level of cooperation promote the education of medical students?*

The main clinical teaching facility for UMSOM is the University of Maryland Medical Center UMMC). Despite the challenges of managing shared enterprises with scarce dollars, the leadership and staff of UMMC and UMSOM consistently demonstrate a strong collaborative relationship for fostering medical education across the continuum of learning.

The Chief Medical Officer and President & CEO of UMMC work closely with the Dean and the Vice Dean for Academic Affairs to ensure that students and faculty have access to appropriate resources for medical student education and evaluation. Recent, specific examples include permitting School faculty use of the hospital-funded eValue system for evaluations of clinical clerkships and subinternships. Additionally, arrangements have been made to train medical students in the use of the new Electronic Medical Record (summer 2007) at the same time that the residents and faculty are trained. The chief Medical Officer has regular access to the Vice Dean for Academic Affairs and they work collaboratively to provide for resources needed for medical education.

The Chief Medical Officer role is complemented by his appointment to the UMSOM faculty as a Clinical Associate Professor of Surgery. In his role as Designated Institutional Official for ACGME programs at UMMC, he works closely with the Associate Dean for Faculty Affairs and

Professional Development to oversee GME collaboratively with the School of Medicine. The quality of the GME programs at UMMC is high, as evidenced by successful RRC and institutional reviews. UMMC and SOM leadership work closely to provide the highest quality clinical classroom for medical student education. UMMC and the School recognize that the ACGME and the LCME both place a high value on the teaching competencies of the residents, who are integrally involved in medical student clinical education, and provide appropriate resources for residents to teach, to develop teaching skills and to receive course-specific preparation, to receive feedback on their teaching skills, and to have opportunities to remedy areas where they may lack full competence. The School and UMMC collaborate to provide resources though the departments or Dean's offices to provide this education for residents. In addition, the School and UMMC are developing CME curricula and assessment tools to study the impact of implementation of patient safety educational initiatives for students, residents and faculty. UMMC has actively sought contributions from residents and students in its first patient safety research poster day. We anticipate that this kind of collaboration in patient safety education and research will continue to develop.

The administrators and staff of the VAMHCS hospitals and clinics maintain a relationship with the School of Medicine that fosters the education of medical students. Many of the VA physicians carry volunteer or full faculty appointments in the UMSOM. The emphasis on the education of students is evidenced by the participation of department directors in weekly educational conferences and in Grand Rounds. Department directors participate in inpatient and outpatient attending duties. In addition, the education of medical students is specifically discussed in the monthly orientation for attending faculty on services such as the medical wards. This level of cooperation promotes the education and training of medical students.

9. *Describe and evaluate the level of interaction/cooperation between the staff members of the hospitals/clinics used for teaching and medical school faculty members and department heads, related especially to the education of medical students.*

The strong partnership between the University of Maryland Medical Center (UMMC) and UMSOM has provided focus and commitment to realizing the goals of shared missions and strategies. The strengths of this relationship are many:
- All medical staff members of UMMC are members of UMSOM faculty.
- There is UMSOM representation by the dean, UMB President, USM Chancellor and Board of Regents on the UMMS Board of Directors.
- Many programs (e.g., the self-insurance trust, public relations and marketing) are shared and collaborative.
- Joint planning and management occurs for all inpatient clinical programs and some shared outpatient programs. This includes programs that are purely clinical as well as those with a significant clinical research component.

UMMC has been very supportive of clinical programs and certain research programs that they view as critical to their success. There is very significant financial (over $60,000,000 per year) and other resource support from UMMC for: faculty recruitment and retention; clinical programs; medical student and resident education. There are significant financial contributions to the Program in Oncology and the Program in Trauma. Over the past three years, UMMC has contributed $10,000,000 toward the research mission of the school. UMMC has been less supportive of other programs, such as Women's Health, Pediatrics and General Internal Medicine.

The relationship between UMMC and UMSOM is best described as "at arm's length". The school actively negotiates for new and continuing resources using a formal process with rigorous documentation. Both entities utilize a corporate approach to this negotiation and base investments upon balancing financial and academic risks with potential gains. This process creates tension and is a challenge to effectively manage; however, UMSOM programs have never been stronger, and therefore one must conclude that it is an effective mechanism.

The subcommittee observed that UMSOM partnerships with UPI, the VA, Mercy Medical Center, MedStar Health and others are healthy and collaborative. UPI is well-managed and contributes more than $10,000,000 per year to the school's mission. The VA hospital remains engaged in both the educational and research programs of the school and actively supports many faculty and residents. The school's community affiliates, Mercy Medical Center and MedStar Health, have been steadfast in their support of UMSOM students, residents, and related educational programs. Chairs at Mercy Medical Center in Emergency Medicine, Pediatrics, and Surgery are fulltime faculty. Over 80% of physician staff in Emergency Medicine and over one-third of Pediatric physician staff are fulltime faculty. Resident and faculty agreements with Mercy Medical Center also contribute over $10,000,000 to the school's mission. Relationships with AHEC affiliates in Baltimore City, the Eastern Shore and Western Maryland remain active collaborations.

D. Information Resources and Library Services

10. *Evaluate the quantity and quality of the print and non-print holdings of the library as a resource for medical students, graduate students, and faculty members.*

The Health Sciences and Human Services Library (HSHL) holdings include over 160,000 print and electronic books and nearly 20,000 electronic journal subscriptions. Faculty and students can request new resources directly, although funding for library resources continues to be a problem. The library is moving toward providing electronic access to its resources, per faculty and student requests. Electronic materials cost 50% - 300% more than their print equivalent, making it difficult for the library to purchase the same amount of materials as it did in the past.

11. *Comment on the adequacy of information technology services, particularly as they relate to medical student education. Are resources adequate to support the needs of the educational program? Are the information systems of the medical school and major clinical affiliates sufficiently well integrated to assure achievement of medical school missions? Note any problems.*

The UMSOM's Office of Medical Education (OME) contains an IT group dedicated to educational needs. The group's mission is to support the information technology needs of undergraduate medical education. Services include a Help Desk and website design/maintenance team. MedScope, the curriculum delivery website, contains all teaching materials used in the first and second years. It holds a subset of materials from the third and fourth years. Available teaching materials include notes, PowerPoint presentations, and digital audio and video recordings of each class. MedScope offers additional resources such as threaded discussion areas to promote interactions between students and course instructors. MedScope holds residency planning information as well. IT services for medical student education are excellent and no problems are noted.

Although the medical school and its clinical affiliates are separate institutions and their information systems are separate, students can access medical school curriculum and library content from any location using a web browser. To standardize assessments across institutions, the medical school adopted the same evaluation system for third- and fourth-year students as our clinical affiliate uses. Ambulatory practice areas are installing an electronic medical record system beginning in FY2008. Exposure to the EMR will be a continuation of a student's informatics background.

The School continues to modernize its data network. Network speeds increased 10- to 100-fold in the last five years. Students can readily download large presentations in a few seconds. Information security measures defend the medical school's network from unauthorized access both from on- and off-campus intruders. Stored information is well protected and secure.

12. *Evaluate the usability and functional convenience of the library and of information resources. Are hours appropriate? Is assistance available? Is study space adequate? Are resources, such as computers and audiovisual equipment, adequate? Can students access information from affiliated hospitals or from home?*

The HS/HSL is located across the street from the UMMC and within two blocks of most of the medical school classroom facilities. In 2006, the HS/HSL extended its evening hours from closing at 10:30 p.m. to 12:00 a.m. Currently, the HS/HSL is planning on becoming a 24-hour facility to coincide with the opening of the new student center, which will be located next to the HS/HSL and will be connected on the ground floor. In addition, the Student Services offices will be moving to the second floor of the library in the 2007/2008 academic year. These changes should position the library as one of the hubs of student activity on campus and increase the utilization of the library's physical space. To accommodate these changes, the library continues to purchase more electronic resources to free up the physical space that print materials occupied in the past. Additionally, the library is planning to enhance the student space by creating a collaborative learning technology space in the library.

Assistance is available at the Reference Desk and Circulation Desk seven days a week. In addition to the in-person assistance, students can call or email these departments or contact the Library Liaison to the SOM directly. There are over 50 computer workstations in the library, and all new computers were installed in February 2007. The HS/HSL building has a wireless internet connection (since 2004) and also has 1500 dataport connections that students can utilize. There is a wide variety of study space for students including 40 private group study rooms, over 130 study carrels, and quiet study floors.

Students can easily access the HS/HSL's electronic resources from the internet by logging on to the library's website using the 14-digit barcode located on the back of their UMBOne card. This process was implemented in June 2006, replacing the cumbersome VPN login procedure previously used. .

Managed by the Office of Medical Education, medical students have 24/7 access to the School's web-based curriculum. They have free access to our buildings. Students can use most of the School's teaching spaces for studying after hours, including the multidisciplinary laboratories. These areas provide an ample number of connections to the data network. The installation of wireless hot spots in teaching areas further enhanced the functionality of these spaces. Many study spaces are equipped with digital projectors. For spaces lacking them, students can sign out

audiovisual equipment during regular class hours (M-F, 8am-4pm). OME also makes two dedicated PC labs available during class hours. Students have 24/7 access to several high-speed printers. The OME Help Desk provides assistance during class hours.

13. *Assess the library and information technology staff contributions to the education of medical students and the professional development of faculty members in the following areas:*
    • Teaching specific skills, such as instruction in computer usage and bibliographic search.
    • Retrieving and managing information.
    • Interaction with the curriculum committee to coordinate various library and information resources with planned curricular design.

- OME conducts a brief "Informatics" orientation at the beginning of school for the entering students. Each year OME updates this session's contents to meet the evolving needs of incoming classes. A session always includes an overview of the school's educational resources and an introduction to the use of the students' laptop on the school's data network. Instruction includes lectures and small group hands-on demonstrations. Additional one-on-one help is available throughout the year. The Informatics session includes a detailed review of MedScope with complete instructions on how to locate and retrieve resources available. It is School policy for students to receive HIPAA training. Training is delivered and documented online.

- The Associate Dean for Medical Education heads the Office of Medical Education. The Associate Dean sits on the Curriculum Coordinating Committee and serves as liaison between that committee and OME's IT group. Through this communication mechanism, OME's IT group receives continual feedback about curricular IT needs from both students and faculty. A second important channel is the frequent communication between OME, coursemasters and teaching faculty. The IT group is extremely responsive to requests made by faculty.

  The library regularly meets with representatives from UMSOM at the Library Advisory Committee meetings. The goals of this committee are to provide a forum for faculty and student representatives to advise the Executive Director on services and resources to support the medical curriculum, act as a channel of communication between the library and faculty, and to provide a forum for faculty to advocate for their colleagues. A librarian from HS/HSL serves as a liaison between the library and the UMSOM and initiates regular contact with faculty to discuss library support for curriculum needs. The liaison also provides classes on library research methods at the request of faculty members and private research consultations with both faculty and students. HS/HSL librarians provide individual and group training on the library's subscription databases and offer 15-20 classes a semester such as "Locating the Evidence" (to support evidence-based medicine) and "Patient Health Literacy & the Consent Process." The library, with the support of the individual schools on campus, purchased a subscription to Ref Works, a bibliographic citation management tool. Librarians offer weekly classes on Ref Works, a bibliographic citation management tool available in the library, and also provide help and trouble-shooting at the individual level. Liaisons also collaborate with the Office of Medical Education and participate in orientation sessions for First-Year medical students, residents, fellows, and new faculty to provide information about utilizing the library's collection, both in the physical building and via remote access. At this time, no librarian is part of the medical school's Curriculum Coordinating Committee. Consideration of librarian participation, especially on the Year I/II Committee may allow for greater inclusion of library resources into curricular design.