

# STATE UNIVERSITY OF NEW YORK UPSTATE MEDICAL UNIVERSITY INSTITUTIONAL SELF STUDY

## FINAL REPORT TO THE LIAISON COMMITTEE ON MEDICAL EDUCATION

JANUARY 8, 2003

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### INTRODUCTION

At the time of the last LCME review in 1996, Upstate Medical University was facing challenges to each of its primary missions. Over the past six years, Upstate has addressed each of these challenges. The current Self-study, conducted in 2002, documents these accomplishments.

The previous LCME review found the curriculum to be effective but traditional in its structure and presentation. Curriculum Renewal 2000, a comprehensive effort of faculty and administration led by the Associate Dean for Curriculum, has transformed the educational program. This included the restructuring of existing courses into system-aligned teaching units, reformatting existing courses to integrate content and the introduction of two new courses: Pathophysiology and the Basic Science Elective. The new curriculum structure is supported by a permanent organization for collaborative oversight consisting of Curriculum Coordinating Committees. Overall, Curriculum Renewal 2000 has achieved its goal of earlier introduction and integration of clinical material in the basic science years.

Significant changes were also made in the clinical curriculum. Primary care and/or ambulatory experiences for students at both campuses were developed in all appropriate clerkships. The comparability of student experiences and evaluation was strengthened by rigorous and regular collaboration between faculty within courses at the Syracuse and Clinical Campus. A clerkship in Family Medicine was added to the required curriculum in Syracuse. The comparability of this clerkship to the longitudinal Primary Care course at the Clinical Campus was demonstrated to the satisfaction of the Educational Policies Committee.

Perhaps the most dramatic improvement realized by the campus is in its facilities. The new medical library was opened soon after the previous self-study was completed. The opening of the East Wing expansion strengthened the position of University Hospital as the leading tertiary care facility in the region.

Subsequently, University Health Care Center opened in a nearby renovated office building. This facility helped to alleviate the institution's space shortage while offering new ambulatory care sites for teaching of both students and residents.

The shortage of modern research laboratory space was addressed by the opening of the Institute for Human Performance and the renovation of laboratories in Weiskotten Hall. When completed in the second quarter of 2003, nearly all basic science laboratories will meet contemporary standards. The condition of teaching facilities in Weiskotten Hall has been addressed by the renovation of three large auditoria and a project to create new classrooms, which will be completed in the spring of 2004.

The College has demonstrated the ability to renew and strengthen itself through the recruitment of energetic departmental chairs and faculty. The Departments of Microbiology, Neuroscience and Physiology, Orthopedic Surgery, Pediatrics and Surgery have all benefited from the recruitment of capable chairs and faculty. These individuals have contributed to the substantial growth in external funding for research.

Although these steps are clearly positive, the administration and faculty remain concerned about the pace with which they have been accomplished. Core research support facilities including the facilities for Lab Animal Resources are in serious need of renovation and expansion. At times, the financial and administrative restrictions under which the campus must function seem to be at odds with its best interest. Although the strength of the managerial leadership of University Hospital has been repeatedly documented by independent auditing firms, the need for fiscal flexibility continues.

The events of September 11, 2001 and the subsequent economic downturn placed unique stresses on the New York State budget. Despite several years of growing state support, for the first time, the state budget failed to cover negotiated salary increases in the State University System. Upstate Medical University is, therefore, addressing significant financial issues. Plans have been made to accommodate a budget shortfall of \$9 million in the 2002-03 fiscal year caused in part by declining state support and decreased income from University Hospital.

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In spite of this situation, the College of Medicine continues to be funded at a level allowing for attainment of those objectives that are deemed most critical to the school's mission. Prioritization of all expenditures is necessary in order to assure that those most notable objectives are met. The need for centralized control of all institutional funds is a fundamental precept of management. Consistent with this principle, the institution has embarked on a comprehensive review of its finances using the techniques of mission-based budgeting which have proven helpful at other academic health science centers.

Although the challenges lying before Upstate Medical University are complex, the administration and faculty are cognizant of what must be done. The physical assets of the University are substantial. Its student body is qualified. Its faculty are experienced and its graduates competent. The image of Upstate Medical University in the region is positive and it is identified as a principal asset. Its research enterprise is growing. Its relationships with affiliated institutions in the community also remain strong. The internal mechanisms of communication and governance are well established and effective. The curriculum in the College of Medicine now meets contemporary standards of educational practice and is adaptable to the changing structures of scientific research, clinical practice and social needs. The faculty, administration and students have reason to look forward to the future not with hesitation, but with confident anticipation.

Office of the Dean

State University of New York

Upstate Medical University

Syracuse, New York

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## **I. OBJECTIVES**

### **1. How are institutional priorities set? Describe how institutional strategic planning has facilitated accomplishment of the school's academic purpose, research prospects, and goals of the clinical enterprise. Is planning a regular institutional activity?**

Organizationally, Upstate Medical University is an integrated academic medical center. The principal enterprises, research, education and patient care are interdependent and report to a unified leadership. For more than 20 years, the strategic planning process has reflected the integrated nature of the institution.

The most recent revision and updating of the institution's strategic plan occurred under the direction of the Dean of the College of Medicine in the fall of 2001. A broadly representative group of faculty and administrators met with consultants at two, two-day retreats. Each retreat session was followed by departmental and administrative unit meetings on campus to develop responses to initiatives proposed during the retreats. The resulting Strategic Plan incorporated and extended the mission, vision, beliefs and goals identified in Upstate Medical University's previous strategic plan – Vision 2002 and Beyond, known as V2K+, published September 1999. (see self-study database section I.e)

The strategic planning process has been helpful as the institution has pursued its multiple missions by distilling the thoughts and opinions of representative constituencies. Subsequently, the process has helped to focus attention on such institutional priorities as expansion of the hospital, development of ambulatory care facilities, renewal of the curriculum and renovation of laboratory space.

In the fall of 2002, the College of Medicine began a project to implement a mission-based management approach to its finances. It is intended to align income streams with programmatic activities. To achieve this, metrics are being developed by workgroups of faculty and administrators to measure productivity in research, education, clinical services and administration. It is anticipated that mission-based management will help the institution achieve the objectives identified by strategic planning.

### **2. Evaluate whether there is an appropriate balance between program resources (faculty members, physical facilities, patients, budget) and medical school activities (teaching, research, patient care, service/administration). Cite any specific instances where resources are not in balance. (To answer this item, the responses from other committees, such as FINANCES, GENERAL FACILITIES, and FACULTY may need to be considered.)**

At present, there appears to be an appropriate balance between the college's resources and its programmatic activities. However, to meet the challenges imposed by a managed care environment and budgetary constraints, the administration and faculty must work together to develop a new organizational paradigm. Utilizing zero-based budgeting and mission-based management, this paradigm will enable the institution to more effectively marshal and focus its resources, broaden its participation in the community, increase faculty productivity and accountability, and build its clinical enterprise while meeting its academic obligations.

### **3. Describe how the objectives for the medical education program were developed, and the process for review and revision of objectives. Is there general consensus about the objectives, or are there areas of disagreement? (Note that "objectives" are quantified outcomes, usually expressed in terms of behaviors that students should acquire. Objectives are not the same as the mission statement of the school or university.)**

A Curriculum Goals Subcommittee of the Educational Policies Committee (EPC) held a series of open meetings. A series of draft statements underwent numerous revisions based upon input from faculty and students. The final statement of curricular objectives for the College of Medicine received approval from the EPC and the Medical College Assembly (MCA) in December of 1993. The statement of competencies

was revised to include provisions that protect the rights of students with disabilities. The revised statement was approved by the MCA in 1994.

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The MCA, the College's faculty governance structure and its operating arm, the EPC, have repeatedly guided, approved and evaluated innovative developments in the curriculum. Examples include the Clinical Campus at Binghamton, the Rural Medicine Education Program, courses in Medical Humanities, Ethics and Social Issues as well as the implementation of "Curriculum Reform 2000." (see database section IV. Educational Program)

**4. Describe how students are expected to show that they have mastered the knowledge, skills, and behavioral objectives of the educational program. In so doing, show how the educational objectives have measurable outcomes. Evaluate the attainment of the objectives.**

First year students learn fundamental clinical skills in the Practice of Medicine course (POM1), which started in 2001/02. Their skills are assessed in an exercise in January and February in which students interview a standardized patient, perform a limited history and physical on another standardized patient, and complete a write-up on the encounter in standard format. Performance in this exercise counts as 20 percent of the grade in the course. Second year students in the POM2 course in 2002/03 will undergo an end-of-course Clinical Competency Examination, which is 25 percent of their grade. The exercise will include three standardized patient encounters, one an interview of a patient with a psychological complaint, and the other two focused histories and physicals on patients with physical complaints. Assessment checklists include aspects of communication, data gathering, and physical examination.

Throughout all clerkships, faculty and residents assess students in a set of core general clinical competencies, using a common student assessment form, emphasizing the importance of these skills across disciplines. They include history-taking, physical and mental status examination, written records (writeups, progress notes), oral presentations, fund of knowledge and understanding of disease mechanisms, problem-solving and clinical application, relationships with patients, professional relationships, attitudes and behaviors, and self-improvement. Log data collected by students and clerkship directors provide assessment of how well patient contact guidelines are met. Clerkship directors use clinical logs continuously in some settings, and intermittently in others, when appropriate.

**5. In what ways are the objectives used for educational program planning and development? Are the objectives clear and specific enough to serve as planning guides?**

The College of Medicine constituency is encouraged to take an active role in the goal setting process. This is accomplished through faculty committees, student organizations, the strategic planning effort, the curriculum reform effort, activities of the Educational Policies Committee, student government and other avenues of participation. The objectives of the College are described in campus publications with wide distribution to both faculty and students. In addition, they are discussed in forums such as faculty/student assemblies, retreats and orientation sessions. Specific objectives for the educational program leading to the MD degree receive faculty review during curriculum and department meetings and are communicated to the students by course or clerkship directors and other faculty members who are involved in the instructional program.

## **II/III. GOVERNANCE/ADMINISTRATION**

**1. Is the governance structure appropriate for an institution of this size and characteristics?**

**Evaluate the effects of the governance structure on the administrative functioning of the medical school.**

The faculty governance structure for the College of Medicine (COM) is based on the Medical College Assembly which includes all College faculty from both campuses. The governance structure is appropriate for an institution of this size and characteristics. The effectiveness of this organizational structure was demonstrated in a recent effort to reform the curriculum for the 1<sup>st</sup> and 2<sup>nd</sup> year medical students. Faculty had the major role in developing the new curriculum. Essentially all faculty were made aware of the proposed changes and the rationale. Ultimately, most of the faculty participated in the vote to implement the new curriculum.

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There are some recognized limitations of the current structure, including difficulty of communication directly with medical college faculty. There is no easy way to distribute information directly from the Executive Council of the Medical College Assembly to the medical college faculty or to solicit input from faculty other than the semiannual meetings. Although the curriculum reform cited above was effectively communicated to essentially all faculty, this was accomplished through personal lobbying on the part of a few individuals. Routine channels of communication are not so effective. The clinical faculty are particularly difficult to reach as they are widely distributed and clinical schedules may make it difficult for these individuals to attend meetings.

**2. Evaluate the relationship of the medical school to the university and clinical affiliates with respect to:**

**The effectiveness of the interactions between medical school administration and university administration.**

The relationship between the Dean of the College of Medicine and the President of Upstate Medical

University is collegial and respectful. The two leaders have a shared vision for the College as well as the institution as a whole. They have formal meetings weekly, but have numerous informal interactions as needed to ensure informed decision-making and continual progress in goal achievement.

**The cohesiveness of the leadership among medical school administration, health sciences center administration, and the administration of major clinical affiliates.**

The leadership of the medical school, university administration and administrator of University Hospital meet at least once a week and sometimes more often to promote coordinated planning, timely problem solving, and monitoring of programs or projects. The Table of Organization in the database (see Self-study Database Section III, Attachments 4,5) illustrates the peer relationship among the executives who comprise the President's Executive Council. This group has a shared vision for Upstate Medical University and work effectively to build quality programs in education, research and clinical services. Relationships with the leaders of other major clinical affiliates including the Veterans Administration and St. Joseph's are open and effective. Due to the efforts of administration and faculty, the bankruptcy of Crouse Hospital has not diminished the quality of the students' experience at that facility.

The leadership of the University also maintains effective relations with the clinical affiliates in the region served by the Clinical Campus in Binghamton with the Dean of the Clinical Campus serving a key liaison role.

**The collegiality of the interactions between medical school faculty members and university faculty members.**

Within the College of Medicine, collegiality and productive interactions among the faculty in basic science and the clinical departments is more than sufficient to effectively accomplish our mission. Through the Medical College Assembly (MCA), and joint appointments to the college's standing committee structure, the faculty work well to facilitate the smooth operation of the school. Interaction with the faculty of the other colleges (Nursing, Graduate Studies and Health Professions) and within the University community as a whole is facilitated through the Faculty Organization. The interactions are both reciprocal and productive with faculty teaching in courses provided by other Upstate colleges. There are many instances where shared research opportunities have developed.

**3. Assess the organizational stability of the medical school administration (dean, dean's staff). Has personnel turnover affected medical school planning or operations? Are the number and types of medical school administrators (assistant/associate deans, other dean's staff) appropriate for efficient and effective medical school administration?**

There have been three deans since the last LCME review (Dr. G. Eastwood (1995-01), Dr. M. Roizen (2001-02) and Dr. W. Williams (2002-present). Ambiguities inherent in leadership transitions have been compounded by a changing administrative structure, with differing responsibilities assigned to the Provost and a varying number of Vice Deans. This has led to a perception of discontinuity, changing institutional

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priorities, shifting administrative strategies, and stalled or delayed recruitment of Chairs [which in turn may aggravate problems and forestall growth in these Departments]. There is a need for consistent and effective leadership. Further, attempts should be made to define a realistic role for the Dean and to create more permanent and clearly demarcated administrative relationships with the President, Provost and Vice Deans. Fortunately, a competent cadre of associate deans has contributed to institutional stability throughout this period. The number of staff reporting to the dean is sufficient to fulfill the functions of the office.

**4. How effective are mechanisms for organizational decision-making? Are necessary decisions made in a timely and efficient manner with appropriate input from concerned parties? Assess the relative roles of committees of the faculty, department heads, and medical school administrators in decision making.**

Decision-making procedures are clear and effective for academic issues such as the implementation of new courses or the new curriculum. The governance procedures relevant to academic decisions are described in the By-laws of the Medical College Assembly. Although considered by some to be cumbersome and time consuming, these procedures are viewed by most faculty and administrators as effectively leading to outcomes which equitably meet the interests of all parties concerned.

The effectiveness, timeliness and efficiency of institutional decision-making in administrative areas depends, to a large extent, upon the financial implications of the decision. As a State-owned and operated institution, Upstate must abide by numerous regulations governing expenditure of State funds.

Expenditures greater than the predetermined limit for local decision making must be submitted to the appropriate office in SUNY System Administration. When related to the purchase of expensive equipment or major renovation and construction of facilities, the procedures related to centralized control can often impose lengthy and costly delays. The current budgetary restrictions imposed upon the institution will seriously restrict prospects for sustaining growth in the research and patient care missions. However, substantial progress has been made.

The design, funding and construction of new core research support facilities demonstrated the ability of the faculty and administration to collaboratively meet pressing campus needs. These core facilities (described in detail in the Research section of this document) include, among others, the Center for Outcomes

Research and Evaluation, the Clinical Trials Office, the Flow Cytometry Core Facility and the DNA Core Facility.

A newly reconstituted liaison committee incorporating members of faculty governance (MCA) and administration has facilitated communication. The Executive Committee of the Medical College Assembly gained a sense of empowerment from frank dialogue with the dean and administration. This relationship has functioned effectively. They have jointly set agendas and mutually provided support for campus initiatives.

**5. Discuss the organizational stability of the department chair position. Has department chair turnover affected planning or operations in any departments?**

The position of the department chair is stable and its role is clear. These factors contribute to lengthy terms of service. Aggressive recruitment of departmental chairs has had a profound impact upon numerous functions of the College. For example, it has improved the ability to plan and implement change, to recruit new faculty, and initiate new programs. A chair of Neuroscience and Physiology was appointed in 2000 following a lengthy hiatus. He is actively recruiting new faculty members to the department. Similarly, in the last three years, new chairs have been appointed in Orthopedics, Pediatrics, Psychiatry, Radiology, and Surgery with positive results. However, two chair positions in the Departments of Pathology (two years) and Cell and Developmental Biology (three years) remain vacant. Search committees have been appointed to fill these positions.

Changes in clinical departments always have major influence on planning and daily operations within the hospital. As part of a hiring package, each new chair requests new space allocation and reconstruction of

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the space assigned. The strategic plan of the department typically changes quickly during the first several months after a chair's arrival with a variety of new programs and new patient populations projected. These require new equipment, changes in operating parameters within ancillary and support departments, and staff orientation at all levels. In each case within 9 months to 1 year after a new chair has been hired, the department-related function has improved significantly and the new programs/services have shown good early performance. For instance, under the leadership of the new Radiology chair, the interventional radiology program has grown significantly with increases in volume and complexity of cases.

**6. Evaluate the degree of participation of faculty members in permanent medical school committees. Is committee membership appropriate in terms of size and representation? Are committee charges sufficiently clear to facilitate their activities?**

Overall, faculty participation is adequate in number, distribution and function. A substantial percent (36 percent) of faculty are members of at least one of thirteen standing committees. Of the 198 faculty who are committee members, 40 (20 percent) are women, a proportion which is identical to their representation on the faculty at large. Committee charges have been clarified and overlap minimized through revision of faculty organization bylaws and administrative decisions where appropriate. Information on requirements for membership, committee charges and functions has been developed and is available on the faculty governance website. This information will be placed upon the faculty organization website when it becomes operational. Over one hundred Clinical faculty also serve on administrative and medical staff committees of University Hospital.

**7. (For schools with geographically separated campuses) How effective are the mechanisms for integrating the educational activities of faculty at geographically remote sites with educational planning and program delivery efforts at the main campus? Do remote campuses have adequate resources and infrastructure to provide educational quality comparable to that found at the main campus?**

The Clinical Campus is well integrated into the governance structure of the Upstate Medical University. As faculty members, Clinical Campus faculty are governed by the by-laws of the Medical College Assembly. Its faculty have adopted a set of operating rules and committees for the conduct of business on the Clinical Campus. These operating rules are internally consistent with the by-laws of the Medical College Assembly. All of the operating committees of the Clinical Campus report directly to their Syracuse counterparts.

Clinical Campus faculty have three representatives on the Medical College Assembly Executive Committee and they participate with Syracuse faculty in the College of Medicine's faculty committee structure. These committees include the Educational Policy Committee, the Clinical Years Curriculum Coordinating Committee, the Committee on Academic Promotions, the Faculty Appointments and Promotions Committee, and the Third- and Fourth-Year Grades Committees. Clinical Campus clerkship directors and faculty committee members regularly travel to Syracuse to attend meetings of such committees, and also participate from Binghamton through two-way interactive videoconference.

The Clinical Campus is also well incorporated into the administrative structure of the Upstate Medical University and the College of Medicine. The Clinical Campus Dean is a member of the President's Cabinet and, as such, has input into the overall administrative and academic issues of the Upstate Medical University. The Dean of the Clinical Campus reports directly to the Dean of the College of Medicine and is a member of the College of Medicine Executive Committee (COMEC) along with all the chairs of Upstate academic departments.

At the departmental level, integration and interaction of the faculty occurs in a variety of ways. Each of the academic program directors at the Clinical Campus has direct contact with the corresponding department chair and/or clerkship director in Syracuse regarding the organization and operation of their respective academic programs in Binghamton. Clinical faculty of the College of Medicine regularly travel to the Clinical Campus to provide lectures and other clinical interaction with students, house staff, and faculty. Several faculty from Binghamton have been involved in teaching programs in Syracuse. Meetings are held

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between clerkship directors at both sites in a coordinated effort to ensure comparable quality and comparable evaluation mechanisms. Major progress has been made over the last five years in the integration of faculty effort, the coordination of educational programs, and the comparability of evaluation. The adequacy of educational resources and infrastructure is documented in the Educational Program section of the self-study database. A unified structure of governance and administration ensures comparability of the educational programs.

#### **IV. EDUCATIONAL PROGRAM LEADING TO THE M.D. DEGREE**

##### **1. Does your program provide a general professional education that prepares students for all career options in medicine? Explain and justify.**

The educational program of the College has an appropriate balance in a general, broadly-based required curriculum with flexible electives to support the transition from general preparation toward specialty graduate training. The required curriculum includes instruction in an appropriate range of basic disciplines as well as interdisciplinary subjects. This judgement is based on multiple sources of information, including a review of elective choices, a review of special curriculum programs, student opinion regarding career preparation, and student matching to a full range of residency programs. In 2002, 47 percent of Upstate graduates matched with primary care residency programs.

##### **2. Review the workload of the students in the pre-clinical years and evaluate the balance between lectures or other passive learning formats and the opportunities for active and self-directed learning. Is there sufficient time for independent study?**

The workload is appropriate to the learning objectives, and pre-clinical education is characterized by a combination of lecture and alternative activities throughout, including sufficient time for independent study. Two goals of Upstate's Curriculum Renewal 2000 relate specifically to this question. One was to reduce total contact time (especially in passive lecture format) and the other, to increase the amount of active, self-directed learning in the pre-clinical curriculum. The total hours of contact time in required courses before and after renewal in year 1 were 775 hrs vs 759 hrs and in Year 2 were 809 hrs vs 724 hrs.

##### **3. Review the environments and workload of students in the clinical clerkships and evaluate:**

###### **a. Time available for reading and study, as opposed to time spent in repetitive clinical duties.**

In examining Upstate's clerkships, we found that no "routine clinical duties" are identified for clerks (i.e., routine lab draws, routine IV starts, EKGs, routine specimen or patient transport, etc.). Compliance with NY state laws limiting resident work hours and hiring of additional support staff has freed students from these duties as well. Most clerkships limit the number of patient encounters to allow time for reading and study. Night, weekend, or post-overnight call is limited, and what exists has educational benefit. Mechanisms to monitor and correct inappropriate use of student time are in place.

###### **b. The levels of teaching and evaluation: in-course formative evaluation and feedback, as well as summative assessment at the end, provided by attending physicians and house staff**

Residents and faculty provide informal and formal supervision, teaching, and feedback on a day-to-day basis. Formative evaluation and feedback is generally adequate, but could be improved. All clerkships identify a mechanism to provide formative as well as summative feedback. All provide written narrative comments, which are available online to students. Most clerkship directors also provide summative feedback verbally. In responding to the 2001 AAMC Graduation Questionnaire, the proportion of Upstate students expressing agreement with the statement, "Faculty members provided me with feedback in a timely manner," was comparable to the national average across the six major clerkships measured (Upstate 63 percent, National 67 percent).

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Two clerkships use standardized patients to assess clinical skills (Primary Care/Family Medicine Clerkship and Psychiatry), and students receive feedback from these encounters.. There is opportunity for more standardized patient use in teaching and formative evaluation and feedback in clerkships

###### **c. The suitability of clinical sites for the general professional education of students**

Several hospitals and a large number of ambulatory facilities and practices provide excellent resources for clinical teaching with a broad base of patients on both campuses. Historic and current log data indicate an adequate patient volume, and a suitable variety of clinical problems.

###### **d. The balance between ambulatory and inpatient education, and the sufficiency of experience in primary and specialty care**

The percent of time in an ambulatory setting varies by campus and site:

**Clerkship** Fam Med

Prim Care

Int Med Neuro ObGyn Peds Psych Surg

%  
**ambulatory**  
100% (Syr  
& CC)  
33% (Syr  
& CC)  
20% (Syr)  
80% (CC)  
33% (Syr)  
80% (CC)  
50% (Syr)  
50% (CC)  
Varies at  
Syr & CC  
Varies,  
Mean 20%

Though local resources dictate the percent of time in the ambulatory setting, clerkship directors at the two campuses believe that the core learning objectives can be met in comparable ways regardless of the site of rotation. Two disciplines continue to look at expanding the ambulatory experience for students, including Surgery (Syracuse) and Psychiatry (both campuses).

**e. The system for assuring consistency of educational quality and student evaluation across different sites of instruction for a given discipline**

Individual clerkship and program directors on the two campuses maintain regular dialogue. They have worked to converge learning objectives and methods of student evaluation. Email and teleconferencing have enhanced communication between campuses in recent years. The Clinical Years Curriculum Coordinating Committee (CCC 3; see database Section IV attachment 3) includes representation from both campuses, and meets monthly by teleconference. The Educational Policy Committee (EPC) initiated a series of presentations by clerkship and program directors regarding comparability in 2001, in order to identify areas of strengths, weaknesses, and divergence. The EPC Evaluation Subcommittee performs regular in-depth reviews of major clerkships on a rotating basis. This systematic review addresses comparability on the two campuses. The EPC also reviews grade distributions for each discipline at each site annually, so that clerkship/program directors can address discrepancies with their faculty. We believe substantial progress has been made to ensure consistency between campuses and among sites over the past seven years.

**4. Evaluate the adequacy of institutionalized curriculum management and the mechanisms to ensure a coherent and coordinated curriculum.**

The development and implementation of Curriculum Renewal 2000 attests to the school's ability to make educational changes and introduce curricular innovations. The process of change was well-served by our organizational structure (see Self-study Database Section IV, Attachments 1 and 2), resulting in a relatively smooth transition to our new curriculum.

**Does the chief academic officer have adequate resources and authority to assure appropriate educational quality?**

The dean has adequate resources and authority to assure the quality of education at Upstate. Although the ratio of number of students to number of faculty is high relative to most medical schools, Upstate provides a quality education to its students. As it reemphasizes research and establishes incentives for activity in the research and clinical missions, faculty resources available to teach shall be reassessed and supported through the mission-based budgeting process.

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**Assess the process used to identify and rectify problems with the curriculum. How feasible is educational change and curricular innovation and the correction of identified problems?**

A continuous quality improvement (CQI) process using multiple sources of information is in place to identify and rectify problems; it also has the potential to anticipate needs. The organizational structure supports effective curricular development, ensures student and faculty involvement, and receives oversight and support from the Curriculum Office. An example of this process supporting educational change is the integration of several "new" topics within the newly formatted curriculum (e.g., population-based prevention, bioethics, geriatrics, palliative care, and cultural diversity). Accomplishments also include improved course syllabi and successful implementation of an on-line centrally-managed course evaluation process in 2001-02.

**What is the extent of integration of basic science and clinical education in the curriculum?**

Integration of basic science and clinical education in the curriculum has also been one of the goals of Curriculum Renewal 2000, and is an ongoing process. All basic science courses provide clinical correlations and/or problem-solving exercises, usually in small groups. As part of Curriculum Renewal 2000, the faculty approved the creation of a required basic science elective in the fourth year curriculum starting with the class of 2005. Integration of additional basic science information within existing

clerkships is a topic of active discussion by the Clinical Years Curriculum Coordinating Committee.

**5. How does the curriculum committee assure that courses examine the performance of students as evidence that they have acquired the knowledge, skills and behaviors laid out in instructional objectives?**

Two of the standing EPC subcommittees have this responsibility. The Curriculum Subcommittee provides direction and oversight to the Curriculum Coordinating Committees (Year 1 CCC, Year 2 CCC, Clinical Years CCC) and assures a coordinated curriculum linking assessment to objectives. An example of the role of a CCC in linking curriculum objectives to student performance is the discussion and planning in the Clinical Years CCC regarding an end-of-year clinical performance examination that would assess student knowledge, skills, and behaviors acquired over the course of the entire third year. The Evaluation Subcommittee reviews, among other things, the extent to which courses meet stated goals and objectives and the appropriateness of the educational methods employed (including student performance measures). Results of these in-depth course evaluations are presented to the EPC for discussion. Samples are available in the Curriculum Office for review.

**Assess the methods used and accomplishments of your curriculum in fostering scholarship, self-study and habits for life-long learning among students.**

There are a number of components of the standard curriculum that foster these activities. They include small group activities in a number of basic science courses and clerkships. Some examples are included in the full Education Subcommittee report under question 2 (see bound volume of committee reports). It is standard procedure in clerkships to identify knowledge gaps, have team members search literature or consult an expert, and share results on rounds. There is internet access on hospital floor computers, and most students take advantage of off-campus access to electronic resources at the library.

**6. Assess the adequacy and external measures to evaluate the effectiveness of the educational program. Is there appropriate support for the curriculum review process (e.g., persons with expertise in program evaluation)?**

(Also see Question #4, pg 9) The Associate Dean for Curriculum works with the EPC chair, the Dean of Student Affairs, and excellent staff in the Offices of Curriculum and Student Affairs to track internal and external evaluation measures of curriculum effectiveness. Other Associate Deans have been generous in lending their time and evaluation expertise. The following sources of information are provided to the EPC, the CCCs, course and clerkship and theme directors, and department chairpersons:

- Results of USMLE Step exams
- Web-based student evaluation of courses and clerkships

- NRMP match results
- AAMC Medical School Graduation Questionnaire

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- Graduate Med. Ed. Questionnaires
- Results of student and faculty focus group discussions

- In-depth EPC course & clerkship
- Active input from the Student EPC Evaluations

The convergence of results and their consistency over time support both the validity of these measures and the positive assessment of our program's effectiveness.

**7. Are all subject areas required in accreditation standards (e.g., behavioral and socioeconomic subjects, preventive, rehabilitative, and end-of-life care, ethics) covered adequately? How well are students prepared for dealing with domestic violence and abuse, and the distinctive circumstances of patients from diverse cultures and belief systems?**

All required subject areas are covered. Cross-disciplinary topics such as Geriatrics, Preventive Medicine, Bioethics and End-of-Life Care are served by integrated curriculum themes, by stand-alone courses, or informal integration.

The AAMC Graduation Questionnaire (GQ) provides information from student opinion as to whether time devoted to instruction in cross-disciplinary topics is adequate. Upstate graduates as well as medical school graduates nationally see room for improvement. At both Upstate and in schools across the country, approximately 30% of students find that instructional time devoted to palliative and end-of-life care, family and domestic violence, cultural diversity was inadequate. It is our expectation that student responses regarding the adequacy of instructional time in these areas will improve starting in 2004, in response to enhancements in the Upstate curriculum occurring now.

**Are there specific objectives for clinical education that indicate the appropriate educational settings, patient numbers and types, and student roles needed to assure their achievement?**

Each clerkship has established goals and objectives, the majority based upon guidelines from national educational organizations in their discipline. Upstate clerkship directors have generally honored recommendations from these organizations for content as well as percent of time students spend in the ambulatory setting. Clerkship directors outline the student role and expectations in the various settings, and provide general guidelines for the number and variety of patients that students are expected to see. These are provided to students verbally and/or in writing during their clerkship orientations. Log data collected by students and clerkship directors provide assessment of how well these guidelines are met. Clerkship directors use clinical logs continuously in some settings, and intermittently in others, when appropriate.

**8. Assess the appropriateness of the methods to evaluate students throughout the curriculum and across sites used for teaching. Are evaluation methods congruent with learning objectives and consistently applied across educational sites?**

Learning objectives, provided in the syllabus of each course and clerkship, constitute the basis for each type of assessment method used. A summary table of evaluation methods used may be found in the Selfstudy Database Section IV (A-B) Attachment 4.

A few clerkships have had divergent evaluation parameters between campuses in the past. Directors from these disciplines have reviewed those areas, and adjusted their evaluation process to ensure comparability in 2002/03. For example, the Psychiatry clerkship will now include assessment of student interviewing skills via a standardized patient encounter in Binghamton as well as Syracuse. In addition, NBME subject exams will be used on both campuses for the same four clerkships.

**Is there an appropriate mix of formative and summative evaluation of students?**

Both formative and summative evaluation occur in the clerkships, although students would like to see more formative evaluation and feedback, and faculty continue to try to improve in this area. All clerkships identify a method to provide a mid-rotation evaluation of student progress and skills, and all have a formal summative evaluation at the end of the rotation. Clerkship directors encourage faculty and residents to

12 provide ongoing feedback to students on their skills, and especially deficiencies, throughout the rotation. This insures that students who are deficient in any of the criteria have adequate time to try and ameliorate any deficiencies. Faculty development sessions help to improve knowledge and skills in this area. Additional details are found in the answer to question 3b above.

**Is there timely feedback to students about their performance, especially as they proceed through the clinical clerkships?**

In general, feedback is adequate, although there is room for improvement. Feedback regarding student performance on examinations is usually provided in writing within days after an examination is graded. Feedback may be distributed in letters, e-mails, via secure website, or in one-on-one meetings. Most clerkships have a 30-40 day turnaround between the last day of the clerkship and the submission of grades to the registrar. In addition to course-specific feedback, the Early Identification (EID) Committees, subcommittees of the EPC, meet at strategic times during the year to assess student performance across each year, and to contact students at academic risk to offer additional academic support. Students are informed about the activities of this committee during orientations.

**9. Evaluate the familiarity of students and course/clerkship directors with the school's standards and policies for student evaluation, advancement, graduation, disciplinary action, appeal and dismissal. Review the adequacy of systems for providing students with access to their records, and assuring the confidentiality of student records.**

The faculty approves policies and standards promulgated by the EPC at semi-annual faculty meetings. All faculty receive mailings of policy changes requiring their vote of approval at least 3 weeks before meetings. They also receive information about significant curriculum and policy changes through a campus electronic newsletter and Curriculum Office printed newsletters. Most course and clerkship directors are members of the EPC and Grades Committees, and are familiar with academic policy. Standards and policies are communicated to students and/or course/clerkship directors via:

- The Student Handbook, updated, printed and distributed annually
- Verbal presentation and discussion with students during orientation to years 1 and 3
- Discussion with students by Student Advisors or Advisory Deans as concerns arise
- Review of policies & procedures at Curriculum Coordinating Committee (CCC) meetings
- Course Policies (with selected school policies) in syllabi, and often posted on course web sites.

Maintaining student records, providing students with access to them, and assuring confidentiality of student records are the responsibility of the Office of the Registrar. Students may review their academic records on request, with proper identification. Course/clerkship coordinators are the only faculty who can enter the grades for each student in their particular course. Security in the electronic access system is excellent. Every effort is made to maintain the confidentiality of student records and limited access to student records is in strict compliance with the Family Education Rights and Privacy Act.

**10. Evaluate the quality of your graduates. Describe and evaluate the methods and measures that you used to arrive at your assessment, including the extent to which the faculty have observed students' performance of clinical skills to assure that they are qualified for the graduate phase of medical education.**

We believe our graduates have excellent credentials and preparation to enter post-graduate training. Several measures provide a sense of the "quality" of our students and graduates:

**Internal course and clerkship examinations, including NBME subject examinations:**

Upstate students take NBME Subject Examinations in Pathology, Behavioral Science, Internal Medicine, Psychiatry, Surgery and Pediatrics. The table below provides a summary of student performance. Scores were normalized in 1993/94 at the NBME to reflect a national mean of 70 with a standard deviation of 8. Normative data are provided below only for 2001/02.

**NBME Subject Exam Use and Student Performance at Upstate**

Course Subject Exam %

of course grade

Mean score

98/99

Mean score

99/00

Mean

score

00/01

Mean score 01/02 Relative

National

Percentile\*

01/02

Pathology 25% (must

pass)

73.6% 71.7% 73.4% 77.6% 71%

Behavioral Science 50% (can pass

course w/o

passing subject

exam)

N/A 74.8% 76.7% 76.7% 64%

Internal Med (Syr)

Internal Med

(Bing)

25% (must pass)

30%

72.2%

70.3%

71.8%

70.3%

73.7%

69.1%

73.7% 74.0%

Psychiatry (Syr)

Psychiatry (Bing)

25% (must pass)

50%

N/A

N/A

74.4%

71%

75.4%

72.8%

76.7% 67%

Surgery (Syr

only)\*\*

23% (must pass) N/A N/A N/A 68.3% 69.9%

Pediatrics (Syr

only)\*\*

Not a % (can pass

course w/o

passing subject

exam)

N/A N/A N/A 71.8% (Jan-June

'02)

\*\*

\*Percentiles ranked in ascending order.

\*\*Note: Binghamton campus began using subject exam in Surgery and Pediatrics in summer 2002.

**USMLE Performance:** Upstate student performance on USMLE Steps 1, 2, and 3 has been relatively stable over the past decade, with passing rates and mean scores for first time takers at approximately the national mean.

**Clinical Skill Assessment:** Throughout all clerkships, faculty and residents assess students in a set of core

general clinical competencies, using a common student assessment form, emphasizing the importance of these skills across disciplines (form and competencies available on request). This committee recommended tracking these core clinical competencies longitudinally over the year across all required core clerkships. Clerkship directors agreed to do so in 2002/03 and will evaluate the information this yields. In addition, standardized patient assessments of students in years 1, 2, and 3 document a normal distribution of performance in fundamental clinical skills (interviewing, physical examination, and write-up of the encounter), and are generally of very good quality (data available on request). Faculty would like to enhance the standardized patient and clinical skills assessment program.

**Success in the NRMP Matching Program:** Students at Upstate fare well in the NRMP, with overall match rates and match rates in competitive subspecialties clustered at or above national means.

**Postgraduate performance:** The Vice Provost surveys residency program directors regarding performance of Upstate graduates in late spring of the PGY1 training year, using a previously validated instrument (from *Components of Clinical Competence Ratings of Physicians: An Empirical Approach* by Hojat, Veloski, and Burenstein, Educational and Psychological Measurement, 1986, vol. 46). Performance is rated on a Likert scale of 4 (top quarter of performance) to 1 (bottom quarter of performance). Mean ratings for 1999 and 2000 Upstate graduates in four subscales were within the upper half of the scale, and ranged from a score of 2.6 to 3.3 in various dimensions over the past several years.

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### **11. Analyze the pattern of career choice among your recent graduates. Is the pattern congruent with your school's mission and goals?**

Career choices of Upstate graduates reflect the broad-based mission of the institution (“...to improve health through leadership, collaboration, and excellence in the areas of research, education, and health care”) as well as national trends. Graduates enter careers in all dimensions of this mission, as seen in the AAMC GQ. Approximately 50-60% plan careers in full-time, non-academic clinical practice, and 25-30% plan to be full-time university faculty. 40 to 50% answer that they plan to be somewhat or significantly involved in research in their careers. 10 to 20% plan to work in underserved settings.

A variety of tracks and programs provide support for those interested in primary care or research careers (RMED, the MD PhD program, the Medical Student Research Program). Summer electives and work-study with faculty, and electives in years 1-4 provide support for various career paths. Primary care and specialty choices for Upstate graduates in the NRMP show trends parallel to national trends over the past decade. Approximately 15% of Upstate graduates remain in Syracuse for residency training. Another 35% train outside Syracuse, but in the state of New York. Approximately 50% relocate to another state for GME.

#### **Evaluate the processes used for academic counseling and career guidance.**

There is room for improvement of the academic and career counseling processes. The full committee report addresses academic counseling (Early ID Committees, the need for expertise in learning disabilities and support for students with academic difficulty). Students on the committee felt strongly about the latter. The current systems in place for career counseling include the following:

**Advisor system:** All Upstate students are assigned to faculty advisors from the first semester of freshman year. The effectiveness of the individual advisory system is variable, dependent on individual student needs and preferences, and fortuitous matches. Students often switch advisors in spring of their third year, as they plan their fourth year electives related to career interests, choosing advisors from the discipline of interest (see Clinical Departments below). Advisors must approve elective choices.

In 2001/02, the Student Affairs and Curriculum deans began a pilot of an Advisory Dean system, modeled after the U. of Rochester Senior Advisory Dean system, and a model commonly used in undergraduate colleges. Because the program is costly in terms of faculty support, and benefits are not yet clear for one form of advising vs. the other, the pilot will continue in 2002/03 as we continue to analyze outcomes.

**Student Affairs:** The Office of Student Affairs provides large group informational sessions for students on various aspects of career counseling. The Dean of Student Affairs meets with second year students to provide information, verbally and via a handbook, about preparing for residency, and a calendar of deadlines. He distributes sample Dean's letters, and answers questions. During the junior year, the Dean of Student Affairs holds another meeting, reminding students of deadlines, suggesting resources for information, and technical aspects of the Match. Students receive a list of contacts in each clinical department who are available to advise them on residencies. In July or August following the third year, students meet individually with the author of his/her Dean's letter to review his/her CV and personal statement. They discuss strengths, weaknesses, and plans.

**Clinical Departments** often schedule residency advisement sessions. These are open to students at all levels, and may be sponsored by the specialty student interest group or the department per se. Department chairpersons, residency program directors, clerkship directors, and individual faculty members provide significant guidance to students interested in careers within specific disciplines.

**Student Interest Groups:** Shortly after orientation in the first year, upperclassmen sponsor a Student Interest Group fair. These interest groups sponsor a large number of career related activities throughout the year, open to students from all classes. Presentations include workshops, speakers, discussions of specialty topics and lifestyle issues, including relationships and childbearing, and others.

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The 2001 AAMC GQ demonstrates that student satisfaction with career counseling could be improved. At Upstate and nationally, approximately 25% of students are dissatisfied or very dissatisfied with career counseling and planning. In response to this, the deans of Student Affairs and Curriculum are planning a series of six presentations for all students during 2002/03 to provide information about specialties and alternative medical careers, along with lists of resource persons in each department.

## **V. MEDICAL STUDENTS**

### **1. Considering the objectives of the school and its constituency, critically review the process of recruitment and selection of medical students, and evaluate the results of that process. Is the size of the applicant pool appropriate for the established class size, both in terms of number and quality?**

#### **How do you validate your selection criteria?**

The last six years have seen an annual decline in the number of applications to medical schools across the nation. The decline at Upstate matched the national trend until last year when Upstate's applicant pool stabilized, apparently one year in advance of the national upswing. In spite of this smaller applicant pool, Upstate has been able to maintain its admissions standards. In fact, the academic credentials of its enrolled medical classes have improved slightly over this six year period.

The cumulative grade point average of the freshman class stands currently at 3.60, with 28.5 for the average of the three quantitative MCATS scores. For the two most recent entering classes we sent out 2.31 (2002) and 2.52 (2001) acceptances respectively to fill each position in the class compared to 2.72 for the previous three year period. A third of our class comes from colleges which receive Barron's highest (of six) ratings; another third comes from colleges which receive its #2 rating; the remainder of the class is from other, primarily #3 rated colleges.

A number of new programs and resources have helped us maintain our competitive edge: an Early Assurance Program, Articulation Agreements, new admissions and student affairs offices, implementation of a new student record-keeping system, new basic science curriculum, national recruiting, an improved communication plan following acceptance and increased participation of our medical students in the admissions process.

The school does face one notable challenge to maintaining the quality of its enrollment. New York State has imposed two sizable tuition increases (totaling \$4000) on its medical schools in the last two years. There are plans to augment this \$4000/yr. increase by an additional \$2000 levy for each of the next two years to a total of \$19,580 tuition and fees.

**Validation of admission criteria.** Many components of the application are weighed in selecting students, including grades, MCATS, interviews, essay, and personal recommendations. Except for grades and MCAT scores, the success of most of these measures in predicting performance in medical school has not been validated.

Like most schools Upstate continues to strive for a class with ever higher undergraduate scores. However, there is little empirical support for doing so beyond an identifiable point. Analysis of our most recent five graduating classes indicates that entering MCATs and college gpa are predictive of success with our medical curriculum, but the relationship is not linear. Instead, there is a threshold. MCATs of 21 (7's), and/or a college gpa of 3.2 serve as breakpoints. Many students (>35 percent) with scores below these thresholds will struggle with our curriculum (i.e., fail at least two courses here), whereas only about 8 percent of students above these thresholds will fail two or more courses.

### **2. Evaluate the number of students of all types (medical students, residents, visiting medical students, graduate students in the basic sciences, etc.) in relation to the constellation of resources available for teaching (number of faculty members, space, clinical facilities, patients, educational resources, student services, etc.).**

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Current College of Medicine class cohorts are unusually large (MS1 has 156 students, MS2 163, and MS3 158). The causes of increased class sizes include a slow but steady increase in matriculants over the past decade (150 in 1996, now targeted at 156). Pre-clinical class size has grown as upper classmen fall back to earlier years (Extended Curriculum students, people returning from leaves of absence, others re-entering the MD track after finishing PhD work) and acceptance of new transfer students into the MS3 years, some on the basis of fixed commitments.

The administration recognizes the concerns of faculty and course coordinators regarding enrollment. Resources assigned to teaching will be adjusted to reflect a mission-based analysis. The availability of space will be addressed by current and planned construction. Steps will be taken to bring the classes back to the currently intended size in the first two years. New admissions should be reduced to accommodate this process and to achieve a class size of 156.

### **3. Evaluate whether the acceptance of transfer students or visiting students in the school's affiliated teaching hospitals affects the educational program of regular students (i.e., in the context of competition of the school's own students for available resources, patients, educational venues, etc.).**

Each year transfer students include admission of 4-5 students into the MS3 class from the affiliated CUNYSophie

Davis BS/MD program, and 5-12 students from other medical schools. We also have an exchange agreement with the four medical schools in Hungary for up to six MS3 students/yr.

The College has recently withdrawn from the Sophie Davis program. For the 2002-03 academic year we also closed admission to other transfer students in an effort to contain class size in the clinical years. For the future MS3 classes as well we recommend less-than-full replacement of the attrition in the sophomore year class.

**4. What gender, racial, cultural and economic diversity of students do you seek, and how is it accomplished? Are student support programs and professional role models appropriate to the aim?**

The class that enrolls at Upstate is culturally diverse owing in part to the state's large and varied immigrant population. Typically, 45 percent of the enrolled class is female. Underrepresented minority students make up 5-9 percent of the class (depending on criteria for URM). About 43 percent of the class is from the downstate area (NYC and Long Island), about 50 percent from the remainder of the state, and 7 percent are from other states. The self-reported percentage of various ethnic groups in six classes is: White 69 percent, Asian 21 percent, African-American 6 percent, Hispanic 3.7 percent, Unknown 0.2 percent and Native American 0.1 percent.

We have employed various methods to recruit and retain disadvantaged students from these underserved populations. These include: Participation from 1974-2002 in CUNY's Sophie Davis program, a Health Careers Opportunity Program (HCOP) grant in 1986 which led to formation of permanent Office of Multicultural Affairs, a HCOP grant in 2000 that initiated a program to "grow our own", i.e. enrich the academic credentials of disadvantaged students in local high schools and colleges, annual student interviews in Manhattan (this contact has been quite successful in overcoming initial reluctance to travel upstate), other academic support including a summer Gross Anatomy Course, tutoring and an extended basic science curriculum, and the Rural Medicine program. Recruitment touring efforts dedicated to underrepresented minority students have been increased through visits to historically black colleges. Traditionally, an adequate racial complexity has been the most difficult diversity for us to achieve. However, we have some accomplishments. Three of our current African-American faculty are graduates of our programmatic efforts in the '70's. For many of the past 15 years our medical school has had significant numbers of underrepresented minority graduates. In 1993-94 Black Issues in Higher Education listed SUNY-Upstate as the 10th leading producer of African-American physicians.

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**5. Evaluate the level of tuition and fees in relation to the size of graduates' accumulated debt, and to the level of financial aid needed and available.**

The average indebtedness of graduates in the class of 2002 who received student loans was \$94,500. This includes debt for both medical school and pre-med study. The average indebtedness figure does not include interest that has accrued on the federal unsubsidized loans, private loans for residency interview costs, or credit card debt.

More thorough comparative data exist for the prior year. Per the LCME 1-B report, in 2000-2001 the average debt of our graduates which was accumulated only in medical school was \$73,582. This is less than the median average debt for all public medical schools of \$78,978. Unfortunately, student loan debt for Upstate graduates is increasing, part of a national trend.

For most students, charges for tuition and fees represent only 51 percent of their student loan totals. Thus, a significant portion of student indebtedness was borrowed to pay for basic living expenses, or to enable students to live at a higher standard than they might otherwise afford.

Approximately 15 percent of the students in the College of Medicine come from families with incomes that are equal to or less than twice the poverty level. Yet, as noted below, only 11 percent of the aid for students in the College of Medicine is non-loan assistance. Need-based (as opposed to merit-based or grants-for-service) scholarships and grants, awarded to students from low or lower middle income families, account for about 6 percent of the total aid available.

**What is the school doing to offset student borrowing?**

The total non-loan assistance received by students in the College of Medicine is only 11 percent of the total financial aid. For 2000-2001, loans given to Upstate students totaled \$1,150,356. This is below the median for public schools of \$1,309,635. Upstate has the following financial aid programs:

- SUNY offers tuition waivers for economically disadvantaged students and students who graduated from the State's Special Opportunity Programs. For 2002-2003, \$378,000 will be available from these programs, assisting 60 students (9 percent of enrollment). Funding provides approximately 60 percent of tuition to eligible students.
- Upstate offers need-based scholarships, sponsored by the Faculty Student Association and Syracuse Medical Alumni, as well as endowment funding. These programs will provide funding totaling approximately \$85,000 for 2002-2003, assisting 70 students (11 percent of enrollment).
- The Alumni Association provides \$135,000 in merit-based scholarships for 2002-2003, assisting 31 students (5 percent of enrollment).
- Upstate provides \$512,000 per year to support MD/PhD students. These students receive both a full waiver of tuition and stipend, which combined total more than the estimated cost of education. For 2001-2002, 21 students were assisted (3 percent of enrollment).
- Upstate consistently ranks in the top 10 percent of all medical schools for utilization of the Federal College Work Study program. For the summer of 2002, a total of 55 first year students (9

percent of enrollment) have been offered summer research positions of \$3,500 each, funded through this program.

- The Financial Aid Office provides individual advice to students on personal budgeting.

#### **Comment on the effectiveness of debt counseling programs.**

Students who are interested in discussing their student loan indebtedness can make appointments with the Financial Aid Office staff at any time. A formal program of debt counseling is currently conducted as part of the student loan exit interview process, during the final semester of the fourth year of medical school.

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Upstate's students are fairly satisfied with their financial aid counseling. In 2001, 19 percent of the students at Upstate expressed dissatisfaction with their overall educational debt management counseling (vs. 17 percent nationally). For the senior student loan exit interview, 97 percent of students at Upstate were satisfied, versus 95 percent at all schools (from AAMC GQ).

#### **How do you assess the level of student debt in relation to students' specialty and career choices?**

Perhaps surprisingly, at Upstate and elsewhere students as a group claim that their choice of specialty is little influenced by their debt. At Upstate 74.1 percent of surveyed respondents felt that debt had no influence on specialty choice. By comparison, the national cohort who reported no influence was 69.4 percent (AAMC GQ, class of 2001).

### **6. Evaluate the adequacy of student support in the following areas:**

#### **Personal Counseling and Mental Health**

Personal counseling and mental health services are available to all students. Approximately 15 percent of the medical students utilize these services. Generally categorized, approximately 1/3 of the counseling relates to study anxiety, 1/3 academic issues and 1/3 is for relationship and other general mental health issues. Drug and alcohol counseling are also available. Students in the first two years are twice as likely to use the services as those in the third and fourth. Most services and medications are free. Confidentiality is a priority.

#### **Preventive and Therapeutic Health Services, Including Immunizations**

Student Health provides primary care services to all full and part-time students. A mandatory student health fee supports the provided services. The Student Health Office is centrally located on campus. The office is open 7:30am-5:00pm with Emergency Care provided by University Hospital. Services provided include primary care for acute illness and injuries, referral to specialists as necessary, an annual health assessment (including TB testing, routine gynecological care, a physical exam and immunizations). Health education, assessment and follow-up after blood and body fluid exposure are also provided. Comparable services are provided at the Binghamton Campus.

#### **Health and Disability Insurance**

Health insurance coverage is required of all matriculated students. Students who do not have health insurance may enroll in the Blue Cross/Blue Shield policy offered by Upstate Medical University through BC & S Associates. All matriculated students are required to have disability insurance. Students pay an annual disability insurance fee.

#### **Study Space**

The Health Sciences Library provides abundant and comfortable study space for individual students and is open until 1:00 am, Sunday-Thursday evenings. However, the students have felt that there is a shortage of adequate study space for small groups of students especially near exam time. This need has been addressed by opening the Weiskotten Hall ninth floor cafeteria during evening hours. Study space is also provided within Clark Residence Hall for students who choose to live on campus. At the Clinical Campus, students use the in-hospital libraries at Wilson Memorial, Robert Packer (Sayre, PA), the student lounge at the Robinson Street site and the main library on the campus of Binghamton University.

#### **Amenities for Relaxing and Socializing**

At the Syracuse campus, a new student lounge provided by the Medical Alumni Association opened in January 2002 in Weiskotten Hall Addition on the 9th floor. The Campus Activities Building (CAB) has fitness and recreational facilities as well as a cafeteria. The CAB is located in close proximity to the Residence Hall. There is a full time professional staff member who plans and organizes an extensive program of entertainment throughout the year. At the Binghamton Campus, there is a student lounge housed within the main administrative offices on Robinson Street that is accessible to the students 24 hours a day. There is a pool table, kitchen facilities, computers with high-speed internet access, a copier, TV/VCR, phone and video conference linkage with the Syracuse campus.

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#### **Housing and Parking**

At the Syracuse Campus, there is a Residence Hall, Clark Tower, which is one block from University Hospital and includes nearby parking facilities. Up to 250 students can be housed. Alternatively, students may choose from a large number of privately rented apartments in the area, the nearest of which lies 500 yards from the entrance to University Hospital. The University also makes paid parking available to students who live off-campus. It is relatively distant from campus but a shuttle is provided. The campus acknowledges the shortage of nearby parking and is planning to build a 1000 space parking garage.

At the Binghamton Campus there is no Residence Hall provided and all students live in an abundant supply

of privately rented housing within the community. There is adequate student parking at all clinical affiliates and at the main administrative offices.

**7. Comment on the effectiveness of school policies for addressing allegations of student mistreatment, and for educating the academic community about acceptable standards of conduct in the teacher-learner relationship.**

In 2001 President Eastwood convened a task force to consider this question. The task force assayed students' perception of mistreatment (especially on clerkships where the personal interactions are most intense) and the students' awareness of the school's mechanisms for dealing with it. The task force commissioned two focus groups to gather student opinion. It also analyzed data from the last four years of the AAMC GQ. Additionally, students returned results from their own survey on the subject. The following summarize the student perceptions:

- Student perception of mistreatment at Upstate was typically on par with the national average (AAMC GQ), with the exception of one class polled. Upstate students in the class of 2000 were considerably less satisfied with their personal treatment than students nationally.
- Most of the mistreatment occurred during the students' clinical education, the period of their most frequent personal contact with faculty and staff. House staff, nurses and attendings were the primary source of the mistreatment here and elsewhere. Four of five incidents went unreported, usually because they seemed too unimportant, but also because students did not know what to do, or feared reprisal.
- The most common abuse experienced by students was verbal. Another unwelcome event was to be "hit on" during the clerkship -- even polite requests for a date were awkward when the request came from someone who held power over one's grade. More serious harassment was rare. Whether or not they represent the majority experience or exceed the national average, student complaints of harassment, especially verbal abuse, are frequent enough to require an institutional attempt to change a culture that permits such behavior. The recommendations of the task force have been incorporated in this Self-Study Report.

**VI. RESOURCES FOR THE EDUCATIONAL PROGRAM**

**(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 prospects over the next five years?**

The institution is not dependent upon a single source of revenue. These sources are diversified and in reasonable balance. Financial support for the College of Medicine is depicted for the last four years on the "Revenue and Expense Summary" which may be found in Section VI (a) of the database. The Summary table identifies the sources and uses of funds by the College of Medicine for the fiscal periods 1998-99 through 2001-02. This data illustrate consistent growth in revenue

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from \$194 to \$238 million, an average annual increase of 6.8 percent. The growth is the result of increases in all sources of funds, with the largest percentage growth in federal grants and state appropriations, with some additional growth in revenue from tuition and hospital reimbursements. Until the current year, the College of Medicine had received growing support from New York State, the allocation having increased from 42 to 53 million between fiscal years 1998-99 and 2001-02. The receipt of these funds is the equivalent of having an endowment valued at over \$1 billion (assuming a 5 percent return over inflation). The financial condition of the University is further assisted by the provision of capital funds for renovation and construction, considering that the non-hospital portion is not subject to debt service by the University. An all funds approach, directed toward mission-based budgeting will continue to improve the use of available resources. Both the University and the College of Medicine have adopted this approach.

The increase of 66 percent in federal grants during the period (1998-99 through 2001-02) is the direct result of efforts by the College of Medicine to enhance productivity of departments through an incentive plan, which in turn provides seed support to increase departmental resources and research staffing. It also allows the individual researcher to share in the proceeds of the awards through a scaled increase in salary through an "also receives" mechanism. In addition to this new incentive, additional research has been possible through the renovation of old and construction of new research space. The renovations are a result of the multiple year capital financing from the state, while the new labs are the result of the opening of the Institute for Human Performance building.

University Hospital continues to support the College of Medicine by providing payment for the supervision of residents. The hospital also provides payments to the College of Medicine faculty who manage and supervise hospital departments and programs. Although additional fiscal support from the hospital for the college has been given, those funds cannot be considered an ongoing resource for the College of Medicine.

Upstate Medical University Foundation, the campus development office has enjoyed a period of

sustained growth. Annual contributions have increased 98 percent over the past five years, from \$2.6 million to \$5.2 million in 2001. The Foundation's assets have increased 43 percent over the same time period, from \$17.6 million to \$25.2 million. The number of donors have increased 84 percent over a seven-year time frame. Philanthropy attributed to medical alumni, a measure of their satisfaction with the institution, has increased from 31 percent to 45 percent participation from 1995 through 2002 and parent participation increased from 2 percent to 36 percent within the same time period. Total giving has increased from \$278,000 to over \$1 million.

Income from the activities of the medical practice plans has grown 15 percent since fiscal year 1998-99. They achieved this although many groups and in particular many sub specialties have experienced decreases in reimbursement rates. Practice revenue provides support to faculty and staff involved in all of the institution's activities. An increase in revenue results in a corresponding increase of support to the medical college through the 5 percent Dean's tax charged to the Medical Service Groups (MSGs). Through 2000-02, the 5 percent tax has remained with no additional tax required from the College of Medicine in support of programs. However, medical practice plan expenditures have increased at a rate equal to or greater than increases in clinical revenue. Medical service groups have improved productivity and reduced costs to maintain a level of financial stability for operations. At times, individual medical service groups have needed temporary financial support from College of Medicine reserves for meeting annual operating activities.

The Clinical Campus is heavily dependent on state funds to support the teaching program. As a community-based program, the Clinical Campus purchases teaching time from local physicians who are already employed as full-time health providers in another community health organization or in private group practice. Thus, the physician faculty members are part-time, and the teaching program is financially an "outsourcing" model.

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While not a source of direct income, the institution's major affiliate, the Veteran's Administration Medical Center, is a major source of support. Over 63 VA physicians teach, practice and conduct research at Upstate. The VA funds 80 residents and provides practice sites for teaching.

## **2. To what degree does the financial condition of the medical school affect the attainment of the school's objectives?**

The events of September 11, 2001 and the subsequent economic downturn placed unique stresses on the New York State budget. Despite several years of growing state support, for the first time, the state budget failed to cover negotiated salary increases in the State University system.

Upstate Medical University is, therefore, addressing significant financial issues. Plans have been solidified to accommodate a budget shortfall of \$9 million in the 2002-03 fiscal year caused in part by less state support and decreased income from University Hospital. There has been an increase in the number of state funded clinical faculty positions in order to foster expansion of programs that are consistent with the school's mission. The increases have resulted in deficits in recent fiscal periods as illustrated in the Revenue and Expense Summary (Section VI (a) of the database). The University is confident that these development expenditures will lead to long-term growth in programs that support the mission and goals of the University.

In spite of this situation, the College of Medicine continues to be funded at a level allowing for attainment of those objectives that are deemed most critical to the school's mission. Prioritization of all expenditures is necessary in order to assure those most notable objectives are met. The University is improving its ability to meet the mission and objectives through the adoption of a mission-based budget plan. This is a significant change from an allocation process that was primarily based upon historical data for determining department allocation. The balancing of these allocations, with the resources available, is seen as sufficient to meet the educational mission. The balancing will be attained through regular and intense evaluations of each program and determination of the appropriate support required.

## **3. Does the need to generate revenue (from patient care or research funding) significantly alter the desired balance of activities of faculty members? If so, what mechanisms are in place to protect the accomplishment of the educational mission?**

The administration, faculty and department chairs recognize the importance of the educational mission and work to maintain the appropriate balance of activities within each department. The exact strategies to meet educational objectives vary among the individual departments. In some departments specific individuals are identified to organize, administer, and teach the educational coursework; in other departments all faculty are expected to teach as part of their responsibilities. Either strategy helps to ensure that education remains a focus of departmental activities. All departments acknowledge that education is a "subsidized" activity at SUNY Upstate Medical University; that subsidy is, in most departments, not entirely met by State/Institutional dollars, resulting in faculty time and effort for education being partially paid for by clinical revenue dollars. Historically, as imperfect as this system is, it has worked well because of chair and faculty leadership.

Going forward, however, as clinical revenues drop (largely from deep discounts in reimbursements from payers), this mechanism for supplementing medical education on the campus will become a concern. At that point, the educational mission would require the College of Medicine to pay the full cost of faculty time and effort spent on education.

Increasing income from research activities should benefit the educational mission by augmenting the number of faculty, increasing research opportunities for students and maintaining the currency of course content.

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

After several years of financial instability precipitated by SUNY and state government policies which required reversion of funds to the state, University Hospital is now established with a predictable budget on which it can move forward and sustain its mission. Significant improvements were made by creating additional bed capacity, and in streamlining operations. These improvements have resulted in a stable financial situation for University Hospital for fiscal year 01-02 and for fiscal year 02-03. Hopefully, the Hospital's financial condition will remain stable through at least fiscal year 05-06.

The Hospital was able to increase market share and increase the number of admissions. The Hospital was commended by the SUNY- and State-retained examiners for excellence in fiscal performance. Additionally, the Hospital was named as an institution of choice in the 2000-2001 Consumer Choice Awards. The Hospital has also been recognized as an institution of quality, achieving a score of 94 on its most recent Joint Commission review. The Hospital enjoys a strong reputation for its quality of services and attracts referrals from a 17-county area. It serves the community with Level 1 Trauma services, primary care services for the Syracuse urban area, and tertiary services traditionally supported by academic medical centers.

The practice plans are organized under a federated system that has been incorporated as a not-for-profit corporation. The governing board has been aggressively working to market the strengths of the system in the community and in the surrounding region. The organization has been extremely proactive and it has created a separate corporation together with the hospital to function as an MSO (MedBest). The MSO provides billing services which are used by virtually all of the groups in the federated plan. The billing services have been quite successful and are now also being used by outside practices that are not part of the faculty practice plan.

In addition, an IPA (HealthBest) was formed by this organization and is being utilized to create relationships with payors and also provide direct care services to selected employers. The MSO has also formed additional primary care and specialty practices that are designed to feed into the practice plan and into our hospital clinical system. These outreach activities are located in suburbs of Syracuse and smaller cities in the region.

**5. How are present and future capital needs being addressed? Is the financial condition of the school such that these needs can be met?**

Infusion of a significant amount of capital, through the issuance of bonds at the state level, has provided University support for major infrastructure maintenance and improvement, as well as space modifications to accommodate programs and equipment installations. Flexibility in the use of these funds has allowed the highest priority items to be addressed. Although this funding will not support a major replacement of inpatient bed units, it has allowed the College of Medicine and University Hospital to meet short-term space and renovation needs.

Bonding authority of \$25 million has been provided for hospital-related capital needs, while an allocation of \$36 million has been awarded through a six-year plan to support campus objectives.

The five-year capital plan to begin April 1, 2004 is being prepared.

Capital needs for the Clinical Campus have been well addressed by local legislative leaders working with the Clinical Campus and Upstate administrators to obtain funding for a major Clinical Campus renovation. The renovation was completed in 2000 and the office, classroom and student support facilities at the Binghamton Campus are state of the art.

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**(B) GENERAL FACILITIES**

**1. Evaluate the adequacy of the general facilities for teaching, research, and service activities of the medical school.**

Significant progress has been made since the prior LCME survey. The Institute for Human Performance (185,000 sq ft) is a new building, housing state-of-the-art research facilities, faculty offices, and clinical research space. Weiskotten Hall (400,000 sq ft), the major academic and research building on the campus, has undergone significant renovation that has resulted in new research laboratories and faculty office space. Currently, phase two of this renovation is under way.

The following issues/needs have been identified for the campus:

- Teaching/conference room space: There continues to be a need for conference rooms to support expanded small group instruction, especially in view of the recent changes to the medical student curriculum. The IHP building has added a small number of conference rooms, the renovation of Weiskotten Hall will create additional classrooms and refurbished conference room space.
  - Faculty office space: Availability of office space for new faculty continues to be a problem on the campus. Preliminary plans are underway for development of a new academic building on campus devoted only to small group teaching space and faculty office space.
  - Clinical Space for Service Activities: Many ambulatory and outpatient functions have been moved out of the University Hospital to contiguous or nearby renovated outpatient facilities. This has had a significant positive impact on the ability of faculty to meet clinical service needs. The hospital inpatient bed base remains small. This will be addressed in the planned expansion of University Hospital.
  - Parking: A critical shortage of accessible parking for students, faculty, patients and staff will be addressed by the construction of a new garage. With a covered connector to University Hospital, this \$22 million project will provide 1000 parking spaces.
- The general facilities of the Clinical Campus are superb. A multiple usage 12,000 square foot facility separate from the host institution, Binghamton Psychiatric Center (BPC), was newly renovated specifically for the Clinical Campus in 2000. There is dedicated free parking for 50 to 60 vehicles. In addition, BPC has additional facilities available for occasional use by the Campus, including a 400-seat auditorium, additional conference rooms, and recreational facilities such as a gym, pool, ball fields, and a riverside camp.

**2. Evaluate the infrastructure for teaching, including the quality of classrooms and laboratories, audiovisual equipment, adequacy of study space, and information systems for computer-assisted instruction. Is the opportunity for educational change (e.g., introduction of small group teaching) constrained by space concerns?**

All large lecture rooms (seating >50) have been equipped with data projection and networked computers. Smaller teaching and meeting spaces are supported with portable projection carts equipped with data projectors, laptops, VCRs and speakers. All rooms are wired with network ports. Four new classrooms to be completed in the fall of 2003 will include permanently installed projection/display devices.

Modifications of the curriculum introduced in the fall of 2000 created demand for a larger number of small group meeting spaces. Class sessions that were once accommodated in a single large lecture hall are distributed among 6-10 rooms. The scheduling of small groups at irregular intervals creates scheduling conflicts with other class schedules. The challenge of finding

24 appropriate teaching spaces becomes more time consuming as the demand for small teaching venues increasingly exceeds the number of such spaces centrally available. Despite prioritizing the reservation of space to give precedence to instructional activities, there is continual contention for usage of the space for administrative meetings.

Teaching space has been frequently re-purposed in the service of meeting other mission-related goals. Over the past year, the number of small group rooms has decreased. If the small group sessions are to be effective, there need to be adequate spaces for this teaching format.

Five classrooms have been equipped for learning physical examination skills. Three of these spaces are basic classrooms with examination tables and freestanding curtains in the four corners of the room. Although they are an adaptation of standard classrooms, students prefer these rooms to learn physical diagnosis for several reasons. Group instruction can be done in a space that is not too restrictive. When students break into pairs, the same space is easily converted. If the instructor realizes from a question that part of the examination needs more clarification he/she can address the whole room rather than going to individual, small rooms.

There are four teaching spaces in Weiskotten Hall that are designed for large class instruction. Three of these rooms (the 9<sup>th</sup> floor auditorium, Alumni Auditorium and room 2231) have been recently renovated and are fully equipped. The fourth (room 103) while in need of renovation, is equipped with contemporary video services. The College recognizes the limitations of its teaching facilities and is taking steps to correct them.

The main Clinical Campus facility is designed to support the teaching program, faculty and students. The facility houses the Dean's offices, multiple faculty offices, faculty/staff kitchen, the Student Affairs offices, secretarial stations, workrooms for copy machines, file rooms, and secure storage.

Student facilities include a large student lounge, restrooms, kitchen and student computer stations with 24-hour, 7-day-a-week access via keypad. Teaching facilities include 3 conference rooms, all with videoconferencing capability, and a 50-seat state of the art classroom wired for audio-video overhead projection, wireless microphones, PowerPoint, and teleconferencing.

The entire facility is on a LAN with its own server, and is connected to the main campus and other

local clinical campus sites via high-speed cable modem and a fast Internet Provider Service. Internet service is available to all students and faculty for instruction and research. Audio-visual equipment and computer-assisted instruction is available and used frequently in the classroom and conference rooms.

### **(C) FACULTY**

#### **1. Does the faculty have appropriate influence in the governance and policy-making processes of the school? How satisfied are faculty with their participation in institutional decision-making? How effective are the mechanisms to keep faculty informed and to promote their input?**

A survey to assess perceptions of faculty members regarding the institutional climate for communication and participation in decision making was distributed electronically to 412 full time faculty on June 18, 2002. By the survey closing date, June 26, a total of 70 (17%) had responded. Although the validity of the results are questionable due to the low response rate, the survey indicated the following:

Generally, departmental chairs are considered approachable by faculty while departmental representatives to governance organizations are not widely known.

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Responding faculty were concerned about the need for better communication between the administration and faculty. Faculty respondents were not satisfied with their participation in institutional decision making. Problems of communication with faculty as exemplified by low attendance at faculty meetings are long standing.

The preferred methods of receiving information regarding the institution were monthly meetings with the dean or president, an institutional web site and in-house publications.

#### **2. Assess the adequacy of the number and types of faculty across the various basic sciences and clinical disciplines for the teaching, research, and service missions of the medical school.**

Teaching: The total number of faculty, particularly in the basic science departments, is small compared to the total number of medical students. The most recent figures (2002), as found in the LCME Self-study Database, report total medical school enrollment at 640 with clinical science faculty at 447 and basic science at 62, which would still place the total number of faculty below the 30<sup>th</sup> percentile in the AAMC Institutional Profile Report, while the number of medical students has increased to near the 70<sup>th</sup> percentile. Nevertheless, students responding to the Self-study Survey indicated a high degree of satisfaction with the availability of faculty (80 percent). Only one half of one percent expressed any degree of dissatisfaction with faculty availability.

Graduate and Continuing Medical Education: All clinical departments have active accredited residency programs. The total number of residents currently at Upstate is 391. The total number of fellows is 49. The house staff total of 440 is the 35<sup>th</sup> percentile nationwide, which approximates the percentile ranking of the clinical faculty. All of the major clinical departments are involved in continuing medical education, which includes weekly Grand Rounds, regional conferences, visiting lectureships, departmental research seminars and journal clubs.

College of Graduate Studies: Membership in the Graduate Faculty Organization, no matter what department a faculty member's primary appointment is in, allows him/her to participate in the running of the graduate school's Master's and Doctoral programs. All 62 faculty members of the basic science departments are members of the 101 person Graduate Faculty Organization. The remainder of the Graduate Faculty Organization (about 40 percent of its membership) is composed of faculty having their primary appointments in clinical departments. Currently, the total number of graduate students is 100 with 28 post-doctoral fellows. This is well above the number of graduate students reported in 1995 (75), placing the total number at the 30<sup>th</sup> percentile nationwide. Research: The five basic science departments generated \$6,924,074 in extramural funding for research during 2000-2001. This amounts to an average of more than \$115,000 per faculty member. Peer reviewed research publications during this time period numbered 102, in addition to 16 books and book chapters. The NIH Program Project Grant in Cardiobiology (Department of Pharmacology) continues to be funded. Eighteen clinical science departments generated \$6,234,760 in Grants and Contracts during 2000-2001, an average of \$14,000 in research income per clinical faculty member. During the same year 379 papers were published, in addition to 112 book chapters and books written or edited. Extramural funding has continued to grow. The total annual NIH awards (all departments) dated 6/14/02 was \$16,918,298.

Clinical Service: One way of assessing the clinical service component of Upstate's mission is to compare the time allotted to this component, compared to teaching and research. Analysis of the self-reported time allotments of the 17 clinical departments (including Pathology), revealed that the average percent of time reported spent in clinical service is 44 percent, compared to a reported average of 40 percent in 1995. This commitment to clinical service is reflected in \$104,119,835 earned (2000-2001) by the medical practice plans, an average of \$233,000 per clinical faculty member.

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## **Clinical Campus**

The Clinical Campus is fortunate in that it is located in a community where there is a plethora of faculty resources. The Guthrie Healthcare System has a 250-person, full-time, multi-specialty physician group practice. At least 100 of these people have faculty appointments with the Clinical Campus and teach in its various required and elective programs. Likewise, United Health Services, a multi-institutional system affiliate in Broome County, has a medical staff of almost 500, and from this group is drawn an active faculty of about 130 physicians, representatives of every specialty, who teach in the undergraduate and graduate programs in the area. The Clinical Campus faculty has an adequate and in-depth distribution across multiple disciplines.

There are 14 FTE state-supported faculty lines used by the Clinical Campus from Upstate Medical University. Of these 14 lines, 4 are filled with fulltime faculty members, 1 each in Psychiatry, Population-Based Medicine, Internal Medicine and Family Medicine. The remaining 10 faculty lines are broken into fractions (.05 FTE, .10 FTE, .25 FTE) and divided among 115 part-time paid faculty in all disciplines and subspecialties. In addition, the Clinical Campus has contracted for some teaching by 11 full-time faculty members who are full-time employees of the clinical affiliates. In this manner, the Clinical Campus has been able to multiply faculty resources beyond what the program budget could support on a “direct pay” basis.

### **3. Evaluate the system for the appointment, evaluation, promotion, and tenure of faculty members. Are criteria explicit and consistent with the objectives of the institution? Is appropriate feedback about career progress regularly provided?**

The procedures and criteria for promotion and tenure, as defined in the SUNY Policies of the Board of Trustees are described in the Self-study Database, Section VI. C. Changes in the faculty track system were adopted by the faculty. The changes consisted of the addition of a fifth and sixth track, the Academic/Clinical Track and the Clinical/Educator Track (see Question 7 in this section).

A number of refinements in policies related to faculty have been introduced in recent years. These include:

- Criteria for promotion in tracks were developed school wide in general terms, but are departmentally specific (ie different in Cell and Developmental Biology from Surgical subspecialty departments.)
- Under the auspices of the school wide A&P committee, a standardized CV format was developed and is now recommended for use by all faculty.
- In 2001, the A&P committee developed an Educator’s Portfolio which is now in the process of implementation at the departmental level. It includes documentation of quantity of effort in teaching and evaluation of quality. It is expected that this document will be used by all faculty when they are reviewed for promotion.
- Consideration for promotion is based in part on fulfilling an Agreement of Academic Expectations which is agreed upon by the faculty member, the chair and the dean at the time of initial appointment and at appropriate review points. These may be modified when necessary (ie when a faculty member’s responsibility in the department changes over time).
- Feedback to faculty varies among departments, however the Dean has strongly recommended that each “junior” faculty have an annual review with the chair. Senior faculty should be reviewed every three years. In addition, in some departments, the internal departmental A&P committees play a role in providing guidance and feedback to faculty members in that department.

The Clinical Campus faculty operates under the by-laws of the College of Medicine and uses the College of Medicine system of appointments, promotions, and faculty tracks. The school-wide Committee on Appointments and Promotions governs the appointments and promotions of the Clinical Campus faculty since they are an integral part of the College of Medicine faculty.

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### **4. What general factors facilitate and what factors hinder the recruitment and retention of faculty members? Is the gender, racial, and cultural diversity of the faculty appropriate for the accomplishment of institutional goals?**

Departmental chairs were surveyed to assess those factors which facilitate and those which hinder the recruitment of faculty. These appear to vary among departments. For example, most basic science department chairs feel that salary and benefits have improved and should continue to be a positive recruiting tool. Among the clinical departments, most chairs feel that salaries are reasonable and in some cases this is not a factor that effects recruitment efforts.

The issue of adequate space has been a concern for quite some time. Many improvements in this regard have been made across campus to address this (see sections of this report on General Facilities (pg 23) and Clinical Teaching Facilities (pg 31)). Still, however, several departments lack adequate space for teaching, clinical practice and/or research. This in turn has hindered recruitment efforts for several departments. It is recognized that providing adequate space to

departments will continue to be a challenge.

All departments put forth a continuous effort to attract and retain a diverse faculty with respect to culture, ethnicity, gender and perspective. It is generally acknowledged that having a diverse faculty is both important and appropriate for the accomplishment of institutional goals. Even given the recruitment and availability challenges experienced nationally in many disciplines, it is also recognized that improvement still needs to be made in this regard.

An analysis of the gender and diversity of the full-time faculty comparing 2001 with 1997 may be found in the Self-Study Database Section VI (C) Attachment 5. There was a lack of change in the proportion of the genders between 1997 and 2001.

The Clinical Campus has been making progress in the recruitment of full-time university faculty who will also work in community organizations and in teaching affiliates. An example of a recent successful recruitment is the acquisition of a full-time Preventive Medicine/Population-Based Medicine Professor, who also serves as Medical Director of the Broome County Health Department and as a consultant to Broome County Social Services' Medicaid managed care plan.

**5. Assess the level of interaction/communication among members of the faculty. What factors facilitate and what factors inhibit cooperation in research and education.**

Several mechanisms exist for interaction/communication among faculty at Upstate. Most basic science faculty are housed in Weiskotten Hall, physically fostering interaction between members of different departments. Interdepartmental programs and institutes bring together faculty members from all basic science departments as well as several clinical departments.

Interdisciplinary courses, such as Practice of Medicine and Molecular Foundations of Medicine, bring together clinicians with basic scientists and small groups of students for discussion of significant issues on a regular basis, as does joint service on PhD and MD/PhD student advisory committees.

Other important forums for interaction, related to research, include the Charles Ross Poster Session, held each fall on the Syracuse Campus, and the Annual Biomedical Research Retreat. Several clinical programs, such as the Joslin Regional Diabetes Center, the National Cancer and Leukemia Group B (CALGB) and various tumor boards also serve to enhance cooperation in interdisciplinary research and education.

The Clinical Campus, from its inception, has utilized interdisciplinary faculty cooperation. As a result, it functions like a large multi-disciplined department. Resources have also been devoted to support and facilitate research interaction among Clinical Campus faculty. A standing Faculty Research Committee sponsors a local Research Poster Session which brings together faculty from all institutions across the region to the Clinical Campus. Some 45 to 50 projects are exhibited

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each year, a reception is held, and a research abstract is published. As a result, faculty members have come together for discussion of common research interests and for collaborative investigations.

An important educational forum is the highly effective series of meetings for first, second and third/fourth year course coordinators. These meetings, organized by the Curriculum Office, have been instrumental in coordinating lectures, integrating course content and scheduling examinations. They are also helping to effectively introduce and coordinate clinical material in the basic science curriculum, and to provide interaction between clinical and basic science faculty. Factors inhibiting communication include the dispersal of some departmental offices (a by-product of campus expansion), lack of easily accessible electronic communications media, and the lack of a complete and current electronic mailing list for faculty. Although all faculty at both campuses have ready access to e-mail through the campus network, organizational links must be forged to better connect governance, administration and faculty. A cooperative effort involving the Office of the Dean, Human Resources, Information Management Technology and Faculty Governance will be necessary.

**6. Evaluate the methods used to foster the professional growth and scholarship of faculty members, and assess the effectiveness of the prevailing system. Do faculty have sufficient opportunity to pursue scholarly activities? How effective is mentoring for junior faculty?**

All of the basic science departments emphasize the importance of teaching and scholarship. This emphasis is reinforced by monitoring and mentoring of young faculty. Grant applications written by young faculty are critiqued by senior faculty before submission. Junior faculty experiencing difficulty in lecturing are routinely paired with a more experienced colleague who observes their lectures and provides constructive feedback.

Some departments encourage faculty to take sabbatical and "mini-sabbatical" research leaves to outstanding research laboratories so they can keep up with current technologies and techniques. It is especially important for unfunded faculty to retrain in a fundable area. All basic science departments actively promote interdisciplinary collaborative research programs among the basic scientists and clinical scientists on campus, as well as between scientists at other universities, especially Syracuse University, SUNY Environmental Science and Forestry, and Cornell

University.

Informal mentoring of junior faculty by senior faculty, and support for faculty attendance at external courses/conferences are commonly found among clinical departments. Some departments have specific leaders with responsibilities for mentorship. Psychiatry designates the division chiefs and research chief, and Surgery tasks the director of surgical research and the surgical educator with the responsibility for faculty development. Annual reviews with the department chair and internal promotion and tenure committee reviews are additional methods to foster professional growth.

The clinical departments have demonstrated their commitment to the development of faculty research and scholarly activities. The clinical departments provide startup and bridge funding for researchers from their departmental accounts. Scholarly productivity by clinical faculty has been substantial. Over 400 peer reviewed articles, monographs or chapters were published in 2000-2001. The clinical departments provide an average of \$2500 per faculty member for continuing education activities.

The Clinical Campus has sponsored faculty development programs, drawing on national experts and on talent from the parent campus and the Clinical Campus. These faculty development programs are aimed exclusively at teaching and research. A major on-site effort involved faculty development in Clinical Patient Communications and in Bioethics using Clinical Campus faculty and Upstate Syracuse-based faculty. The Integrated Medical Sciences department of the Clinical

Campus has also sponsored a series of seminars correlating basic science and clinical science information on specific interest areas including: Transmissible Spongiform Encephalopathies, Drug Resistance, Allergic Diseases, Acute Lymphoblastic Leukemias, and AIDS. Basic Science concepts such as cytogenetics, pathobiology, molecular targets and laboratory approaches are correlated with clinical presentations, diagnosis, disease management, and therapeutic advances.

**7. To what extent is excellence in teaching a prominent criterion for faculty advancement and reward? How prevalent and effective are programs to enhance teaching and evaluation skills? Are such programs available for part-time and community (volunteer) faculty, as well as for full-time faculty?**

The quality of instruction provided to students has always been a source of pride within the Upstate community. Recent innovations in faculty promotion procedures have enhanced this tradition by creating new academic career options called "tracks." The primary basis for promotion in the Clinical/Educator Track is excellence in those academic activities involving clinical care and teaching, although research and scholarly work are encouraged. The Academic/Clinical Track is appropriate for the clinician/scholar whose activities, academic and scholarly, are carried out largely in a clinical setting. Additional details on types of appointments may be found in the Self-study Database section VI (C) Faculty.

The introduction of a standardized curriculum vitae for all faculty reviews has increased comparability and consistency in application of standards. The standardized CV includes information on the faculty member's teaching. This aspect of the promotions review process is a significant development and has been further enhanced by the development of the Educator's Portfolio which was recently introduced for all faculty (basic science and clinical). The Educator's Portfolio documents quantity of teaching, including the most significant contributions and teaching quality including teaching awards, recognition by administration, student/resident evaluations and peer review comments. Its use has provided increased recognition to those faculty who have assumed substantial teaching responsibilities.

The Educational Policies Committee, with support of campus administration, has established a standing subcommittee on faculty development. The subcommittee membership includes faculty from both basic science and clinical departments who are noted for their interest and dedication to teaching. Student members of the subcommittee provide their perspective as well. The subcommittee on faculty development has facilitated the identification of a group of 50 faculty scholars to help promote good teaching and act as role models. The subcommittee on faculty development has organized a monthly seminar series based upon a needs assessment. This series is well publicized and attended by full time, community (volunteer) and part time faculty. Several departments including Pediatrics, Family Medicine and Internal Medicine support faculty development programs which focus on the development of teaching skills for residents and voluntary faculty. The Department of Family Medicine, working through its RMED Program is extensively involved in development of volunteer faculty.

Established teaching competence and excellence are priority criteria for advancement at the Clinical Campus. Faculty members are rated on the teaching of Clinical Campus students, other medical students and residents; contributions to campus development and curriculum; new pedagogic methods; participation in faculty development programs and in continuing medical education programs.

## **(D) LIBRARY/INFORMATION SERVICES**

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

A consensus verified by results of the national LibQUAL+ total market survey, indicate that the library's journal holdings and electronic resources are meeting the needs of faculty and students. Most constituencies find online full-text journals to be very beneficial and there is strong support for continued growth. Potential budget reductions for the library in the next fiscal year are a major concern in light of annual increases of 10 percent or more in the cost of journals and the additional charge for online access.

The monograph and audiovisual collections are considered to be generally adequate. The primary concern is the level of support for books and single-subject monographs, as was cited in the last LCME self-study. The library's budget for books has remained flat for the past several years to accommodate inflationary journal prices.

The library's responsive interlibrary loan service is a strong complement to both the monograph and journal collections and is able to fill most requests for items that are not held by the library. However, the frequent need to use this mechanism for some journals in the biology and biophysics areas generates significant charges for copyright permission.

### **2. Evaluate the usability and functional convenience of the library. Are hours appropriate? Is assistance available? Is study space adequate? Are resources, such as computers and audiovisual equipment, adequate?**

The library is open 106 hours per week during the academic year, remaining open until 1:00 a.m. on weekdays. While students and faculty are generally satisfied with the current library hours, the LibQUAL+ survey showed that students are less satisfied than faculty, who are very satisfied. The majority of library users utilize daytime hours; however, the late night hours provide a safe and quiet study area for medical and graduate students. Informal survey data from medical and graduate students support this conclusion. Audiovisual equipment, materials and services are satisfactory.

Reference librarians are available for 61 hours per week throughout the year. LibQUAL+ scores for medical and graduate students indicate that students and faculty are satisfied with the affect of service (quality and helpfulness) of the library staff.

Study space in the library has increased since the last LCME evaluation from 193 general study seats to 253, an increase of over 30 percent. In addition, 7 small classrooms are available for group study in the library. Medical and graduate students are generally satisfied with the physical library space available for study; however, they expressed a strong need for quiet study areas as well as for more group study rooms. In response, the library has designated the 3<sup>rd</sup> floor as an absolute quiet study area and created informal group study areas on the 1st floor.

The library databases are accessible by campus computer network and dial-in access. The number of library computer workstations has increased since the last LCME evaluation from 48 to 59, or nearly 25 percent. New computer equipment was installed at the beginning of the 2002-03 academic year.

The library's LEAP (Library Enhanced Access Program) service for remote access is used heavily by faculty and students when they are off campus. LEAP is of particular importance to clinical campus students and students in the Rural Medicine program who may have limited information resources at their rural locations. LEAP accounts are also issued to community-based providers who have adjunct appointments in the College of Medicine, allowing them the same access to electronic resources as the students they train. Access to library resources through LEAP has

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grown dramatically since it was first introduced in March 1999. In 2001, there were over 5,600 individual users who used the service over 650,000 times.

### **3. Assess the library staff contribution to the education of the medical students and the professional development of faculty members in the following areas:**

#### **a. Teaching specific skills, such as instruction in computer usage and bibliographic searching**

Formal feedback reflects positively on the teaching provided by librarians during two sessions of the MSI Practice of Medicine course: Electronic Resources and Application of MEDLINE Retrieval Skills to Problem Solving. Librarians also contribute to teaching evidenced-based medicine in some of the clerkships well as provide instruction to students and faculty on demand in the library.

#### **b. Retrieving and managing information**

Classes in information mastery are offered on a regular basis in the library's teaching classroom. The Educational Communications Department also provides instruction in computer software and applications. Results from the LibQUAL+ survey in response to "Employees teaching me how to access or manage information" show a very high level of satisfaction.

#### **c. Interaction with the curriculum committee to coordinate various library resources with planned curricular design**

The Library Director is an appointed member of the College of Medicine's Educational Policy Committee and librarians serve on MSI and MSII curriculum coordinating committees.

**4. Briefly evaluate your school's experience using computer-assisted instruction as (a) study aid and (b) an integral part of course instruction. What barriers, if any, exist? Assess the resources available to help the faculty identify or develop educational software.**

The use of computers as an aid in instruction has increased in the past few years. In a recent poll of College of Medicine clerkship directors and course coordinators, 86 percent of the respondents utilized the web to distribute course materials, including handouts and lecture notes. Seventy-one percent of respondents utilized some form of on-line self-assessment tutorials. Half of all respondents use computers for testing.

In the majority of cases, technology is used to disseminate information or act as a mechanism for student-faculty interaction. Fully 93 percent of courses utilize email as a mechanism by which students and faculty communicate.

Finally, 36 percent of those responding to the survey said that computing technology is being used to support problem-based learning in their courses. Only 7 percent report using computer simulations in their courses. The major barrier to more widespread computer use is the lack of appropriate software for problem-based learning and the difficulty of developing such software

**(E) CLINICAL TEACHING FACILITIES**

**1. 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? What is the availability, quality, and sufficiency of ambulatory care facilities for teaching? Are sufficient community faculty available to meet your needs?**

Clinical resources and facilities available to the College of Medicine are adequate for the education of the student body. An expanded University Hospital, affiliations with four community hospitals, a newly renovated Veterans Hospital, multiple ambulatory clinics and offices ensure a reliable and diverse mix of patients and diseases. All clinical departments have clerkship coordinators with primary responsibility for student supervision at all sites and affiliates. These faculty interact with

32 staff members at the affiliate to ensure that the educational offerings are appropriate, that the objectives for learning at each site are understood, and that evaluations of students are consistent throughout the clerkship.

The hospitals affiliated with the Clinical Campus provide notable resources and facilities for medical student teaching. Inpatient and outpatient visit numbers are appropriate, as is the variety of clinical material. Faculty participation is more than adequate to meet the educational needs of the students. The Rural Medical Education Program (RMED) places students throughout the Central New York Region. Faculty evaluators from the medical school visit the students and physicians at the sites at regularly scheduled intervals.

The diversity of sites throughout the Upstate Medical University educational system along with multiple clinical settings, variety of patient material and committed teaching faculty provide for an excellent clinical experience for third and fourth year medical students.

The integration of medical student teaching into the recently opened University Health Care Center ambulatory site, which functions predominantly as an office-based primary care site, has significantly augmented primary care teaching and facilities resources. Additionally, an increasing number of community-based voluntary faculty provide clerkship and elective experiences at their office sites. Ongoing "teach the teacher" and educational objective sessions are held regularly with course/clerkship directors and voluntary faculty thus insuring timely and appropriate monitoring of voluntary faculty teaching activity.

**2. 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?**

Senior physician administrators at University Hospital and the Veterans Administration Medical Center hold relevant faculty titles in their primary departments. Medical directors at these two hospitals hold titles of Associate Dean and along with other senior hospital administrators, as well as the Dean of the Clinical Campus, meet frequently with the Dean of the College of Medicine and the Associate Deans with responsibility for medical education. Medical Directors at the major affiliated hospitals in Syracuse also are Associate Deans for medical education. In this capacity, they interact regularly with the Associate Dean for Curriculum and clerkship coordinators. The Hospital Executive Committee and the Upstate Medical University Affiliation Agreement provide additional venues for hospital CEO's, staff and trustees to meet with Upstate Medical University administration.

The Clinical Campus Dean meets regularly with the administration of hospitals under his auspices. These affiliates provide strong educational opportunities for students via a community-based medical model.

**3. 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.**

In general, clinics are directed by full time Upstate faculty in respective specialties. Nursing and administrative staff at University Hospital and affiliates participate in the educational process when appropriate.

Voluntary clinical faculty status is appointed by the Dean of the College of Medicine and is considered an honor which usually derives from educational service. These voluntary faculty interact closely with and are guided by faculty course and clerkship directors. Many voluntary faculty have close ties to the medical school traceable to their status as graduates and/or resident trainees of Upstate Medical University.

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**VII. GRADUATE EDUCATION IN THE BASIC SCIENCES**

**1. Evaluate the graduate programs, including those involved in basic science departments, numbers and quality of graduate students, quality of coursework, professional advancement and degreeawards, availability of faculty advisors and research space, adequacy of financial support, and overall contribution to the research mission of the medical school.**

The College of Graduate Studies supports strong programs in Biochemistry and Molecular Biology, Cell and Developmental Biology, Microbiology and Immunology, Neuroscience and Physiology, Pharmacology, Neuroscience and Structural Biology (SUNY approval pending). The pool of faculty extends across basic science and clinical departments. In the 2002-2003 academic year, there were 87 PhD students, 24 in the MD/PhD program and four pursuing a Masters degree. The combined admissions program for PhD students has resulted in a noticeable improvement in the number and quality of applicants to SUNY Upstate. (see Section X Research, question 2, Graduate Students pg 37)

The tracking of graduates in their career development is an excellent measure of the quality of the institution's graduate programs. Over the last seven years all but two graduates have been placed at prestigious institutions in postdoctoral positions, faculty positions or with industry. A satisfactory rate of completion in the graduate programs is another indicator of program quality. This information may be found in the LCME Self-study Database, Section VII, Attachment 1.

Much of the research productivity of the basic science departments depends on graduate students. In general, principal investigators have sufficient space and funds to accommodate the students who wish to join their laboratories. Financial support for students comes from various sources, including state fellowships, extramural research grants, other universities, and foreign governments. Graduate students interact with medical students in direct and indirect ways. They participate in the instruction of medical students in Medical Microbiology, Gross Anatomy, Neuroanatomy, and Microscopic Anatomy. They give research seminars and invite distinguished speakers that medical students attend.

**2. Evaluate the adequacy of systems for reviewing the quality of the graduate program in basic sciences.**

The quality of graduate programs in the basic sciences at SUNY Upstate Medical University is more than adequately evaluated by a range of internal and external mechanisms. The College of Graduate Studies enjoys equal status with the College of Nursing and the College of Health Professions in reporting to the Provost, the Chief Academic Officer of the institution. The Provost demands accountability through monthly meetings with the dean of each college and annual reporting. The Dean of the College of Graduate Studies maintains direct contact with its educational programs through an advisory body, the Graduate Council. This body has established a committee in charge of development and evaluation of the core curriculum in the College. The Curriculum Review Committee incorporates student and faculty course evaluation data in the ongoing monitoring of program quality.

Graduate programs of the basic sciences are also subject to periodic review by the State of New York, Department of Education and SUNY System Administration. They were reviewed in a major statewide study of graduate education in the sciences approximately a decade ago. All programs were approved with the exception of one, which was subsequently brought up to state standards and approved. More recently, the State Education Department, along with SUNY System Administration, approved the development and implementation of a core curriculum across our basic science graduate programs.

The Middle States Association/Commission on Higher Education reaccredited the College of Graduate Studies as part of its overall institutional accreditation conducted in 1999.

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**3. Evaluate the impact of the graduate program in the basic sciences on the education of medical students (include considerations of course content in joint courses, potential competition for faculty resources, and participation of graduate students in teaching medical students).**

The present educational atmosphere provides graduate and medical student interactions during those courses in which graduate students act as laboratory teaching assistants (Gross Anatomy, Microscopic Anatomy, and Neuroscience) or small group leaders (Pathophysiology portion of Medical Physiology and "recitation sessions" in Microbiology) and in two joint courses (viz., Medical Physiology or

Pharmacology). These courses allow medical students to gain the research prospective of the graduate students and for graduate students to learn the practical application of basic science. Other contributions to the education of medical students are described in the response to question 3 in section X of this document (pg 39).

## **VIII. GRADUATE MEDICAL EDUCATION**

**1. Evaluate the impact of residency training programs on the education of medical students. Assess the level and quality of resident participation in teaching and the efforts to instruct residents about teaching and evaluating medical students. If there are core clerkships sites without residency programs, indicate who provides the continuum of supervision and teaching that is usually the province of residents.**

The presence of a graduate medical education program has a positive impact upon medical student education throughout the institution. In all departments, residents appropriately participate in the undergraduate clerkship. This includes bedside teaching during patient care, as well as participation in the organized didactic portions of the medical student curriculum. Training for residents in teaching occurs to some degree in all programs. Some of the residency programs, most notably Pediatrics and Internal Medicine, run extensive programs to prepare residents as teachers. Informal instruction in teaching skills is common. Resident teaching performance is monitored on a regular basis Evaluation of resident teaching as part of the medical student experience occurs in all departments.

All core clerkships at the Syracuse site are presented by departments with residency programs. At the Clinical Campus, there are clerkships without corresponding residency programs. In these instances, clinical faculty provide supervision and teaching of the medical students, in lieu of resident activity.

The Clinical Campus conducts educational experiences for medical students in its two major teaching affiliates, Wilson Memorial and Robert Packer Hospitals, that have residency programs in Internal Medicine, Family Practice, and Surgery. At both of these facilities a major part of the teaching is done by residents when students are assigned to a resident staffed service. These teaching activities include the review of student patient evaluations. Some didactic sessions have a great deal of bedside teaching. The students are expected to become part of the patient care team and participate in those activities in which the residents are involved. Efforts to enhance the expertise of residents in teaching and evaluating medical students occur at all Clinical Campus affiliates.

There is no evidence, through discussion with chairs or in representative material, that New York State Department of Health regulations on workload limitations have adversely impacted resident teaching of medical students. On the contrary, while the overall workload per individual resident enrolled in a graduate medical education program has substantially decreased, clinical services remain continuously covered by residents in all patient services, thus increasing opportunity for undergraduate teaching.

**2. Describe any anticipated changes in graduate medical education programs (numbers of residents, shifts in sites used for training) that may affect the education of medical students.**

Chairs of clinical departments were surveyed to determine if they anticipated any changes in their graduate medical education program. The responses were as follows:

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**Anesthesiology** – After a reduction in the number of graduating medical students entering anesthesiology over a period of years, this year there has been a national resurgence in interest and in applications. Previously predicted national overages in numbers of anesthesiologists have not materialized. The program remains strong and continues to enroll residents at its level of maximum allocation.

**Family Medicine** – The St. Joseph’s Hospital Health Center residency remains strong and viable even in the face of national trends suggesting declining interest in primary care training experiences. The program continues to fill all of its allocated positions and enjoys a strong national reputation. The teaching experiences for students are highly regarded.

**Internal Medicine** - The Department of Medicine has incorporated its primary care experience into its main program. A greater emphasis on ambulatory training sites and ambulatory experiences for both house staff and students has emerged. This trend is particularly important because the cost of teaching in ambulatory settings is substantially greater than that of teaching in a hospital-based setting. A tendency toward interdisciplinary training has been accelerated. Internal Medicine residents and clerks spend greater amounts of time in geriatric settings, dealing with outpatient orthopedic patients and in adolescent clinics with pediatricians.

**Obstetrics and Gynecology** – The Department has increased the number of residents from four to five in each of the program years. These changes impact favorably on student education, since they increase the resident/student ratio. St. Joseph’s Hospital has been included in the Ob/Gyn clerkship rotation. Planned expansion and relocation of practice sites will also expand the settings and opportunities for student teaching.

**Otolaryngology** – The program has increased its compliment of residents from 10 to 12. At present, the program does not anticipate any changes in hospital utilization by these residents. Any changes in the mechanism in reimbursement for delivery of medical services may have implications for revision in the organization of resident and attending clinics.

**Pediatrics** – The Pediatric Residency Program has changed its emphasis by increasing the amount of time

residents spend in general ambulatory pediatrics and decreasing the amount of time spent in critical care areas. This change is in conjunction with changes instituted in medical student education in the core Pediatric clerkship. All medical students are now assigned to spend half of the six-week core clerkship in ambulatory settings and half in inpatient settings.

**Radiology** – Interest in Radiology residency training programs in all three fields of diagnostic radiology, radiation oncology and nuclear medicine has surged. Residents do contribute to the education of medical students in the first, third and fourth years of medical school.

**Emergency Medicine** – Emergency Medicine has increased its complement of residents to 10 approved positions per year. This will provide more teaching opportunities for residents.

**Surgery** – The Department of Surgery has developed a comprehensive teaching program in the surgical ICU for residents and acting interns. Daily teaching rounds, integral involvement in care delivery and regular exposure to an interdisciplinary team of critical care specialists are the key components of this program. No other changes related to the teaching of medical students are contemplated.

**Psychiatry** – Psychiatry has added an approved Child Psychiatry fellowship and an approved Forensic Psychiatry fellowship. The expansion of faculty and clinical activities in Child Psychiatry has opened up several new venues (clinics, schools) where medical students are able to see and participate in the outpatient evaluation of children and adolescents and their families. While the Forensic program has no immediate plans to involve medical students, plans for addition of a Geriatric Psychiatrist to the faculty and an expanded Geriatric program along with the development of “specialty clinics” in the Psychiatry Outpatient Clinic will provide further opportunities for medical students.

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The following programs indicated that they did not plan any significant changes that would have an impact upon undergraduate medical education: Neurology, Neurosurgery, Ophthalmology, Orthopedic Surgery, Pathology, Physical Medicine and Rehabilitation and Urology.

**Clinical Campus** – At the Clinical Campus, the Wilson Memorial Hospital contemplates shifting its Internal Medicine residency to a primary care program to increase the ambulatory experiences of its residents. This shift could result in greater opportunities for students and residents to interact in the continuum of the patient care experience. Another change under consideration is the development of an integrated Pediatric Program at Wilson, with the same beneficial result should it occur. Other than the program noted above, Guthrie has no plans for major programmatic change.

## **IX. CONTINUING MEDICAL EDUCATION**

### **1. Evaluate the continuing education activities of the school in the context of the institution’s mission and objectives:**

Since the last LCME accreditation visit, an institutional evaluation of the role of CME in the mission of the College of Medicine was conducted. The findings of the Ad hoc Review Committee reiterated that a strong CME program emphasizing contemporary evidenced-based standards of clinical practice must be maintained for the improvement of the health of the central New York community. To this end the office recruited a director with a Masters in Education to revitalize the office, to provide appropriate review of educational programs and to assist the faculty in improving their pedagogic effectiveness. Program planning and budgetary control guides were developed to assist the faculty in planning CME programs. Software for accurate learner certification and online registration were implemented. The office implemented a health needs assessment of the region, gathering data not only from physicians, but also from regional hospital directors, nursing educational officers and local offices of the NYS Department of Health. The CME office has then developed continuing educational programs by linking appropriate Upstate College of Medicine faculty to the identified needs at twelve regional sites. The office has doubled the number of teaching programs and has initiated a monthly interactive telemedicine program to the medical staffs of 5 regional hospitals. The CME program was fully approved for four years by the ACCME following the site visit in 2001.

### **2. Describe and evaluate the contribution of the continuing medical education effort to the education of medical students. Is experience in continuing medical education used to shape the content, methods, and results of undergraduate medical education? Do medical students participate in continuing medical education programs?**

The main interface between continuing medical education and medical students occurs in the Rural Medical Education (RMED) program. When faculty visit a rural site where a student is assigned, the faculty and student coordinate their objectives and topics for a presentation to the local hospital medical staff. The RMED student has the responsibility of organizing the teaching activities for the visiting faculty. Recently, students have been taking a direct interest and participating in the Bioethics seminars provided to health care professionals by the staff of the Center for Bioethics.

CME programs influence the content and methods of the undergraduate medical education curriculum by enhancing knowledge and skills of faculty. CME accredited courses on teaching skills are popular with faculty and benefit students. Medical students are invited as free guests to all CME programs, but often the CME programs are off site and at inconvenient times for medical students.

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## **X. RESEARCH**

**1. Evaluate the research activities of the faculty (areas of emphasis, level of commitment, quality, quantity) in the context of the mission and objectives of the medical school.**

**Extramural Funding:**

According to the 2000-2001 Institutional Profile System (IPS) report of the Association of American Medical Colleges, the Upstate Medical University had 63 full-time Basic Science and 356 Clinical Science faculty members, altogether receiving federal support of \$13,712,000, of which \$12,061,437 came as NIH research grants. The distribution of grant moneys was \$106,050 per Basic Science faculty (35 percentile) and \$16,858 per Clinical Science faculty (18 percentile). A more recent report from the Research Foundation of SUNY on sponsored program expenditures at the Upstate Medical University indicates that during 2001-2002, expenditures for both basic science and clinical departments for research were over \$26,380,000. Sources for such expenditures came primarily from the NIH (\$12,075,333), but included also the NSF, HRSA, HUD, NHTSA and CDC and state agencies, as well as private foundations and industry.

**Level of Commitment:**

The mission of SUNY Upstate Medicine (The College of Medicine, University Hospital and The College of Graduate Studies) is to improve health through leadership, collaboration and excellence in the areas of research, education and health care. One of its major goals is to become an institution that supports worldclass research. Therefore, a strategic plan has been developed with the following specific objectives:

Objective #1: Establish mechanisms for the effective recruitment, development and retention of outstanding research faculty.

Objective #2: Substantially increase the level of sponsored research.

Objective #3: Enhance access to and ownership of research core facilities, and increase the quality and amount of research space.

Objective #4: Recruit outstanding multidisciplinary and translational research teams.

Objective #5: Develop and protect intellectual property; develop biotechnology initiatives in conjunction with industry and other universities.

**Areas of Research Emphasis:**

The Institution has focused its resources in areas of research emphasis. The most fully developed are Neuroscience, Cardiovascular and Musculoskeletal Sciences. These are described in detail in the LCME Self-study Database, Section X, Attachment 2. Other areas of research emphasis include Structural Biology, Cancer/Oncology, Environmental Science and Vision.

**2. Assess the adequacy of resources (equipment, space, graduate students) for research. Evaluate the amount of intramural support for research and the level of assistance available to faculty members in securing extramural support.**

**Graduate Students:**

In the fall of 2002, the College of Graduate Studies had 87 Ph.D, 4 MS and 24 MD/Ph.D students. The statistics which provide a measure of our success in attracting students may be found in the Self-Study Database Section VII Attachment 2.

\*A detailed version of this strategic plan is contained in the Self-study Database Section I, Objectives 38

Although there is considerable variation from year to year, there has been a decided increase over the past 4-5 years in the number of domestic and foreign applications to Upstate's College of Graduate Studies. Less pronounced has been the overall trend of increasing Quantitative and Analytical GRE scores over the same period for both the applicants and the students matriculated. There has been no particular trend in the Verbal scores. In general, the graduate school's applicant pool and student body has been improving at a respectable pace.

**Research Space:**

Space is an important and limited campus resource. It is managed, monitored, and allocated carefully. Space is considered a resource owned by the institution, under the direct and indirect authority of the President of the Upstate Medical University, and "loaned" to campus units, departments, faculty, and staff to carry out their job duties. Space on the campus does not belong to any department or individual in perpetuity. A flexible and proactive approach to the allocation, management, and reallocation of space allows the campus to best achieve its goals with limited resources.

**Core Facilities/Research Centers:**

A number of support facilities have been developed or expanded since the last review. Flow Cytometry is undergoing significant modernization through the purchase of two new state-of-the-art flow cytometer/fluorescence-activated cell sorters. The Department of Cell and Developmental Biology operates an Imaging Core Facility housing a Laser Scanning Confocal Microscope. The DNA Core established last year has been providing cost-effective and high-quality service. For future development, construction of a new Biotechnology Center is being planned. This facility would house the following core facilities: Gene Mapping, Transgenic and Knockout Facility, Microarray Core Facility. A Structural Biology Core Facility will be located within the Department of Biochemistry and Molecular Biology.

**Center for Outcomes Research and Evaluation**

In June, 2001, Upstate Medical committed to the establishment of the Center for Outcomes Research and Evaluation (CORE) to be housed in the Institute for Human Performance. In collaboration with clinical

and research faculty of Upstate Medical University, CORE methodologists conduct research and applied analyses designed to guide the improvement of patient care and associated patient outcomes. CORE faculty members are trained in Epidemiology, biostatistics, and health services research. Research projects include descriptive studies, analytic observational studies, and randomized controlled trials. CORE faculty can guide study design, subject recruitment strategies, hypothesis development, sample size estimates, data collection strategies and tools, data analysis and interpretation.

During the first quarter of 2002, the first fully staffed period, CORE faculty consulted or collaborated on 25 extramural funding applications. Future success will be evaluated by growth in successful funding and independent projects initiated by the Center faculty.

**Clinical Exam Core** – The IHP has ten clinical exam rooms and related support space. The Clinical Exam Core is available for researchers to conduct clinical research. The intention is to bring clinical research to the IHP where it can conveniently utilize the other Cores. These exam rooms are supplied with the basic support needed for clinical and research examinations.

**Clinical Research Unit** – University Hospital's Outpatient Clinical Research Unit (CRU) will be moving from its modest facilities on the eighth floor of University Hospital to an eight private room facility on the first floor of the IHP. The CRU will administratively operate under University Hospital through Article 28 status, but will now have additional resources and space to further its supporting role for the clinical research enterprise of Upstate Medical University. The CRU specializes in clinical trials and NIH supported clinical research, and is available to all Upstate faculty to conduct clinical trials and other patient-based research.

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#### **Intramural support for research:**

Intramural research awards for faculty are funded from three sources: 1) the Hendricks Fund for Medical Research, 2) the College of Medicine Research Enhancement Fund and 3) departmental sources such as Medical Service Groups. Funding is awarded in three different categories:

1. **Bridge Funding** to assist faculty when a recent extramural grant application has not been funded.

2. **Pilot Research Grant**

- Post Sabbatical Awards

- Collaborative Research Projects

- Pilot Research Projects that cannot be funded by existing research money.

3. **Postdoctoral Research Fellowships**, a matching funds program, to provide two-thirds of a first year NIH fellowship stipend for a period of one year.

The overall intramural support of Upstate Medical University investigators through the above mechanisms, with startup dates between July 1997 and March 2000, was \$920,053.00. Of 46 intramural grants awarded, 28 were subsequently followed by extramural support by federal or private not-for-profit organizations, for a total of \$17,225,890.00. Substantial support for research is given by the medical service groups including support for the MD/PhD program.

#### **3. Assess the impact of research activities on the education of medical students, including opportunities for medical students.**

The presence of an active research program makes possible the following options for medical students:

**MD/PhD Program** For individuals interested in pursuing a career in medical-related research and academic medicine, a program leading to both the MD and PhD degree is available. The total time required is typically seven years. Stipends are provided for all students for all years of enrollment in the MD/PhD program.

**Medical Student Research Program** (Academic Research Track): Track #6R of the twelve student rotation tracks has been designated "Academic Medicine Track". By making a minor modification in Track #6, students have three 12-week periods available for research. Up to 20 students can be admitted to this program each year.

**Summer Research Experiences for Medical Students** The College of Medicine, Office of Research Development, Department of Medicine and Department of Surgery encourage and support research experiences for medical students during the summer break period. Financial support from these sources places over 60 students in work-study each summer. Many of these are wholly research positions, and about 90 percent have a research component.

#### **Clinical Campus Research**

Research activities at the Clinical Campus are coordinated by a Research Committee that meets quarterly or as needed. The Research Committee is charged with promoting research efforts at the Clinical Campus through appropriate recognition, reward and communication. The Research Committee has representation from each of the affiliated institutions. It sponsors an annual Poster Session, a research referral system, and a Research Track program for students. Adjunct appointments of basic scientists to the Clinical Campus faculty are made through the Integrated Medical Sciences Department, with the advice and approval of the relevant basic science department on the Syracuse campus.

## **XI. MEDICAL SCHOOL DEPARTMENTS**

### **(A) BASIC SCIENCE**

The basic science departments in the College of Medicine have demonstrated an expanded

commitment to organized research during the period since the last LCME review. In 1995 the five basic science departments held total grant funding of \$5,781,341. As of June 2001 the SUNY Research Foundation documented extramural grants in excess of \$9,586,000. This constitutes an

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increase of 66 percent. The number of faculty lines assigned to these departments did not increase during this period.

Much of the increase in external funding can be attributed to new departmental leadership, improved facilities, newly recruited faculty and an institutional incentive system. Following the recruitment of a chair for the Department of Microbiology and Immunology and the recruitment of new faculty, the downward spiral in external funding in this department was reversed. The Department of Microbiology and Immunology demonstrated a growth of 110 percent in external funding between 1996 and 2001.

The chair position in the Department of Cell and Developmental Biology (previously known as Anatomy) has been vacant for three years. A search was conducted but was not concluded. The administration is committed to reopening the search.

The quality and quantity of research space, which was cited as a serious issue constraining recruitment and the growth of research funding, is no longer an issue. Positive developments include the availability of the Institute for Human Performance and the extensive renovation of Weiskotten Hall. The financial status of basic science departments remains strong. All faculty lines are fully funded. A research incentive system returns a substantial share of salary recovery funds to the department and individual principal investigators.

Participation of faculty in curriculum development and governance has remained consistently strong. Basic science faculty took leadership roles in the recent extensive revision of the curriculum. All of the departments are committed to maintaining their role in teaching. The percent of faculty time devoted to teaching medical students and an increasing number of graduate students averages 42 percent.

#### **(B) CLINICAL**

The total number of clinical faculty (including Pathology) has gradually increased from 354 in 1995 to 385 in 2001. This increase of 9 percent has been exceeded by an increase in practice plan revenue from \$74 million to \$104 million (41 percent) over the same period. Although there is some evidence that the number of faculty in clinical departments remains less than the norm for the number of students enrolled, the quality of instruction remains demonstrably high by all standard measures including satisfaction with the availability of faculty expressed on the Graduate Student Questionnaire. The additional faculty have augmented the ambulatory and research efforts of clinical departments as well as broadening the pool of specialized clinical expertise available to the institution.

The space and facilities available to clinical departments have expanded dramatically since the last LCME review. The opening of the East Wing of University Hospital, renovation of University Health Care Center for Ambulatory Care and the opening of remote sites in the region have expanded the opportunities for practice and teaching. The Institute for Human Performance has provided expanded research space for clinical departments as well as basic science departments. In recent years, the service obligations of several clinical departments have begun to modify the manner in which clinical instruction is delivered. The major motivation has arisen from opposing forces: one requiring a continuous increase in personnel in order to respond to increasing service demands and the other being a necessity to present an increasing portion of the curriculum in ambulatory settings. Although valuable for teaching purposes, ambulatory settings have proven to accommodate fewer students per practicing faculty member and are thus less efficient than the traditional, inpatient setting.

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Vacant chair positions in the Departments of Surgery and Pediatrics were filled within the last year. These new chairs have been well received and the departments are experiencing revitalization. The administration is committed to opening the search for a chair of the Department of Pathology.

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## **XII. SUMMARY**

### **OBJECTIVES**

#### **Strengths**

1. Administrative and Curricular strategic planning procedures are well developed and functioning.
2. The College of Medicine is developing a mission-based management system with input from faculty, chairs and administration.

#### **Concerns**

1. Future reductions in clinical funding may place University Hospital in jeopardy and increase pressure on faculty to generate income through practice activities.

#### **Recommendations**

1. As the process of mission-based management unfolds, continue to examine and adjust the resources available to support educational quality relative to class size.
2. Explore the development of performance-based measures of student competence.

#### **GOVERNANCE/ADMINISTRATION**

##### **Strengths**

1. The Faculty Organization and Medical College Assembly provide a useful mechanism for the Dean of the College of Medicine, the President of Upstate Medical University and other institutional administrators to consult and communicate with the faculty about a variety of matters.
2. Integration of the Clinical Campus with the Syracuse Campus on the administrative, departmental and curricular levels has made substantial progress since the last LCME visit. Mechanisms are in place to insure the comparability of the educational experience for students at both campuses.

##### **Concerns**

1. A unified medical service group has yet to be fully developed.

##### **Recommendations**

1. A unified Medical Service Group may evolve from the mission-based management analysis.
2. Orientation of new faculty to the governance structure of the institution should be improved by various means including the Faculty Organization web site.

#### **EDUCATIONAL PROGRAM LEADING TO THE M.D. DEGREE**

##### **Strengths**

1. There is ample evidence that Upstate College of Medicine graduates are well prepared for all medical career options.
2. Progress has been made in reducing the number of scheduled contact hours within the pre-clinical curriculum.
3. By moving more of the clinical experiences to ambulatory settings, the College has improved the breadth and scope of clinical encounters available to students.
4. Already a leader in Ambulatory education, the Clinical Campus has continued to develop innovative programs in curriculum and evaluation.
5. The College has demonstrated its commitment to curricular innovation by the appointment of an Associate Dean for Curriculum and the staff necessary to support this office.
6. The Associate Dean for Curriculum, the Educational Policies Committee and faculty/student subcommittees have jointly functioned in leadership and decision making capacities for the development of Curriculum Renewal 2000.

##### **Concerns**

1. The Curriculum Goals and Graduation Competencies approved by the Medical College Assembly in 1996 are in need of reviewing and updating.
2. There is a need for additional personnel to provide remedial support to students.

##### **Recommendations**

1. Improve and systematically assess student clinical skills by expansion of the standardized patient program and strengthening evaluation methods in clerkships on both campuses.
2. The EPC should review the methods of evaluating student performance in more depth to assess success in teaching and learning the graduation competencies.
3. Align mission-based budgeting for education to provide appropriate support for teaching and course management.

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4. Provide staff support for educational research and evaluation.
5. Develop a stronger system to provide appropriate remedial support for students who experience academic difficulty.

#### **MEDICAL STUDENTS**

##### **Strengths**

1. The College continues to attract a substantial applicant pool from which well-qualified students have been selected.
2. The services provided by the Offices of Student Affairs, Student Health and Financial Aid are an asset to the institution.
3. The Syracuse Medical Alumni Association currently supports several full tuition scholarships for medical students and provides books and microscopes for medical students. It also endowed a Chair in Medical Ethics.
4. Student government engages wide participation by the student body. The proactive role of student government is encouraged by the administration.
5. Collaboration between the Office of Student Affairs and the Curriculum Office has led to improved programs in both areas.

##### **Concerns**

1. Although the College continues to make the participation of multicultural and economically disadvantaged students a priority, there is some evidence that the number of African American students is declining.

2. Increases in tuition may make the college less attractive to applicants.

#### **Recommendations**

1. Recent efforts toward recruitment of qualified African American students should be expanded.
2. The Office of Graduate Medical Education should monitor that new house staff are trained for their roles as teachers. Departments must also take responsibility for orienting new residents to the objectives and challenges specific to the culture of each discipline.
3. To insure the continued availability of a substantial pool of well-qualified applicants, the State University should maintain tuition at a competitive level.
4. Upstate should consider a two-tier mechanism to deal with formal and informal complaints of harassment.

### **RESOURCES FOR THE EDUCATIONAL PROGRAM**

#### **(A) FINANCES**

##### **Strengths**

1. The College of Medicine is adequately funded from diverse sources and will continue to attain its objectives if its resources are managed carefully.
2. The College's efforts to enhance research productivity have been rewarded by a recent up-turn in research related income. Likewise, income from the activities of medical practice groups has grown substantially.
3. Funds for the completion of the Institute for Human Performance, Hospital expansion and renovation of Weiskotten Hall constitute substantial financial support from the State University of New York
4. Hospital finances have been stabilized.

##### **Concerns**

1. The decline in State support and continuing financial problems experienced by the State of New York and its State University are sources of concern.
2. Increased emphasis on medical practice generated funds for support of the institution will require careful monitoring by the administration to maintain a reasonable balance in the pursuit of the institution's multiple missions.

##### **Recommendations**

1. A strategy for maintaining the financial stability of University Hospital and its supporting clinical system must be pursued.
2. University Hospital should continue to reimburse the College of Medicine for services provided by the faculty in support of the hospital's mission.

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#### **(B) GENERAL FACILITIES**

##### **Strengths**

1. The administration of the College has devoted substantial attention to providing upgraded research and office facilities.
2. The completion of renovations to Weiskotten Hall and Weiskotten Hall Addition will provide substantially improved facilities for research.

##### **Concerns**

1. Core facilities to support research require continued expansion.

##### **Recommendations**

1. The facilities of the Division of Lab Animal Resources must be renovated.
2. Address the shortage of teaching space appropriate for small group teaching, as well as clinical skills teaching and assessment in Weiskotten Hall and University Hospital.

#### **(C) FACULTY**

##### **Strengths**

1. Students responding to the self-study survey and Graduation Questionnaire indicated a high degree of satisfaction with the availability of faculty.
2. Recruitment of faculty at the Clinical Campus is facilitated by the interaction and cooperation with affiliated hospitals and health care management groups.
3. Interdepartmental programs in Cardiobiology, Cancer, Musculoskeletal Science, and Neuroscience and Physiology, bring together faculty members from all basic science departments as well as several clinical departments. Such interdepartmental activities improve teaching and assist faculty in the development of research protocols which adapt to recent developments in science, crossing the boundaries of traditional disciplines.
4. Recruitment of chairs and faculty in the clinical and basic science departments has proceeded well in spite of the limitations of available facilities.

##### **Concerns**

1. In comparison to national standards, the total number of faculty, especially in the basic science departments, is small.
2. Faculty development and mentoring programs emphasizing instructional skills and research should be expanded.

3. With ever increasing demands on faculty for clinical service, there is less time for participation in a variety of academic activities.

**Recommendations**

1. All faculty should receive regular feedback on their performance from the chair of their department as required by campus policy. Compliance with this requirement should be monitored by Administration at both the Syracuse and Clinical Campuses.
2. The institution must achieve greater ethnic and gender diversity among the faculty and administration.

**(D) LIBRARY/INFORMATION SERVICES**

**Strengths**

1. The Medical Library building provides an excellent environment for study and scholarly activities.
2. The services provided by Medical Library staff demonstrate a high level of professionalism.
3. The Library staff have collaborated with faculty and course directors to integrate information technology in the curriculum.

**Concerns**

1. The Medical Library budget and staffing pattern are inadequate.

**Recommendations**

1. The addition of substantial institutional resources will be necessary to address the declining number of subscriptions to periodicals.

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**(E) CLINICAL TEACHING FACILITIES**

**Strengths**

1. The clinical resources and facilities available to the College of Medicine are adequate for the education of the student body. They offer a variety of patient populations and organizational models, thus expanding the range of the students' experience.

**Concerns**

1. The effects of a competitive environment may continue to distort what has been traditionally a collegial relationship among the affiliated hospitals. Care must be exercised in maintaining positive relationships which will enable continued student participation in the patient care process.

**Recommendations**

1. The maintenance of a viable University Hospital dedicated to service, research and teaching is considered essential to the Syracuse model of medical education.
2. The planning of University Hospital's expansion should include options to expand teaching opportunities.

**GRADUATE EDUCATION IN THE BASIC SCIENCES**

**Strengths**

1. Nearly all graduates of the College of Graduate Studies have been accepted to post-doctoral positions at prestigious institutions.
2. The faculty has given high priority to the adaptation of graduate degree training programs to the current shift in the job market from predominantly academic to an increasing proportion of industrial and other non-academic positions.
3. Institutional support for an active MD/PhD program now supports enrollment of six new students per year.

**Concerns**

1. More funding for graduate student stipends is needed.

**Recommendations**

1. Support for graduate student stipends should be sought from external sources including federal government, industry and philanthropy.

**GRADUATE MEDICAL EDUCATION**

**Strengths**

1. Upstate Medical University provides a full range of specialty and subspecialty graduate medical education programs.

**Concerns**

1. Upstate must deal with decreasing financial support of GME by federal and state governments.

**Recommendations**

1. The sources and use of funds related to the education and support of residents and fellows should be clarified through the mission-based management process.

**IX. CONTINUING MEDICAL EDUCATION**

**Strengths**

1. Upstate has established itself as a regional resource for continuing education of physicians and other health professionals.

**Concerns**

1. The benefits of CME to the community have not been quantified.

## **Recommendations**

1. The institution must continue to develop measures of quality and effectiveness related to continuing medical education.

## **RESEARCH**

### **Strengths**

1. Extramural funding has increased substantially in response to faculty efforts, new facilities, aggressive recruiting and the use of faculty sale of service funds.

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2. Upstate has developed particular research strengths in the neurosciences, cancer, cardiobiology and molecular biology. Other research areas under development include vision, olfaction and musculoskeletal sciences.

3. A number of vacant Chair positions have been filled with capable appointees who have clear research strengths.

### **Concerns**

1. The need to establish a full range of core research support facilities must receive high institutional priority.

### **Recommendations**

1. The administration must maintain the momentum of growth in research even during times of financial stringency.

2. Searches for chairs of the Departments of Pathology and Cell and Developmental Biology should be reopened as soon as resources are available.

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## **APPENDIX**

### **COLLEGE OF MEDICINE SELF-STUDY**

#### **STEERING COMMITTEE AND SUBCOMMITTEES**

Self-Study Coordinator: Paul L. Grover, PhD, Vice Provost for Academic Affairs

Staff Assistant Margaret Bourke

#### **STEERING COMMITTEE**

Name Title/Department

William Williams, MD, Chair Dean, College of Medicine

Kenneth Barker, PhD Provost

Edward Shillitoe, PhD Professor/Chair, Microbiology & Immunology

Jose Jalife, MD Professor/Chair, Pharmacology

E. Gregory Keating, PhD Dean, Student Affairs

Robert Kellman, MD Professor/Chair, Otolaryngology

Steven Brady, MBA Vice President for Finance & Management

Barry Biddle, PhD Associate Dean, Clinical Campus

Gregory Threatte, MD Professor/Interim Chair, Pathology

Gregory Eastwood, MD President

Rajesh Davé, MD Dean, Clinical Campus

Paul Grover, PhD Self-study Coordinator

Mantosh Dewan, MD Professor/Chair, Psychiatry

Ben Moore, MHA CEO, University Hospital

Maxwell Mozell, PhD Dean, College of Graduate Studies

Lynn Cleary, MD Associate Dean, Curriculum

William Grant, Ed.D Associate Dean, GME

Philip Holtzapple, MD Associate Dean, CME

Leonard Weiner, MD Professor, Pediatrics

Howard Weinberger, MD Professor, Pediatrics

Christina Lee Student, MSI

David Dexter Student, MSII

Mary Trusilo Student, MSII

Ian Madom Student, MSIII

Laurie Grulich College of Graduate Studies Student

Katie Beuler College of Graduate Studies Student

Adam Tripp College of Graduate Studies Student

#### **CLINICAL TEACHING FACILITIES**

Name Title/Department

Leonard Weiner, MD, Chair Professor, Pediatrics

Sara Grethlein, MD Associate Professor, Medicine

Janice Ross University Hospital Administration

Patricia Darcy, MSSS Associate Dean, Clinical Campus

William Grant, Ed.D Associate Dean, GME

MaryBeth McCall, MD Chief Medical Officer, Crouse Hospital

Lynn Cleary, MD Associate Dean, Curriculum

Robert Friedman, MD VP, Medical Affairs, St. Joseph's Hospital

Richard Kazel, MHA ACOO, VAMC, Syracuse

Robert Michaels, MD Clinical Campus

#### **CONTINUING EDUCATION**

Name Title/Department

Philip Holtzapple, MD, Chair Associate Dean, CME

Christina Bond Administrator, CME

Peter Beatty, PhD AHEC Coordinator

Hugh Bonner, PhD Dean, College of Health Professions

James Callahan, MD Assistant Professor, Emergency Medicine  
Elvira Szigeti, RN, PhD Dean, College of Nursing  
Frank Smith, MD Associate Professor, Pediatrics  
Ronald Young, MBA VP, Public & Governmental Affairs

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EDUCATIONAL PROGRAM LEADING TO MD DEGREE

Name Title/Department

Lynn Cleary, MD, Chair Associate Dean, Curriculum  
Peggy Smith Administrative Assistant, Curriculum  
James Greenwald, MD Clerkship Director, Family Medicine  
Barry Biddle, PhD Associate Dean, Clinical Campus  
John Sharpless, MD Course Director, Clinical Campus  
L. Thomas Wolff, MD Director, Rural Med Program  
Frank Szmalc, MD Associate Professor, Surgery  
Taylor Loftus, MD Clerkship Director, Internal Medicine  
Barry Berg, PhD Course Director, Human Anatomy  
David Beach, PhD Course Director, Microbiology/Immunology  
Constance Stein, PhD Associate Professor, Clinical Pathology  
Robert Maykut, MD Course Director, Clinical Campus  
Nick Gonchoroff, PhD Course Director, Pathology  
Oliver Brown, PhD Associate Professor, Pharmacology  
Ramtin Cohanim Student, MSI  
Tosha Brown Student, MSII  
Hugo Lin Student, MSII  
Joshua Parker Student, MSII  
David Orbach Student, MSII  
Jeremiah Dickerson Student, MSII  
Mary Ann Flynn Student, MSII  
Alyssa Stephany Student, MSII  
Mary Trusilo Student, MSII  
Ari Jonisch Student, MSIII  
Ian Madom Student, MSIII  
Matthew Miller Student, MSIII  
Anurag Shrivastava Student, MSIII  
Ross Borzykowski Student, MSIV

FACULTY

Name Title/Department

Howard Weinberger, MD, Chair Professor, Pediatrics  
Kenneth Barker, PhD Provost  
Michael Miller, PhD Professor/Chair, Neuroscience & Physiology  
Gary Fattal, MD Professor, Clinical Campus  
Coleen Cunningham, MD Associate Professor, Pediatrics  
Jack Allison, MD Medical Director, VAMC  
Philip Holtzapple, MD Professor, Medicine  
Patty Brecht Associate, Human Resources  
Stacy Behuniak Associate, Human Resources  
Richard Hunt, MD Professor/Chair, Emergency Medicine  
Steven Brady, MBA VP for Finance & Management  
Patricia Darcy, MSSS Associate Dean, Clinical Campus  
Denice Jones Director, Affirmative Action  
Theresa Rohr-Kirchgraber, MD Associate Professor, Medicine

FINANCES/GENERAL FACILITIES

Name Title/Department

Robert Kellman, MD, Chair Professor/Chair, Otolaryngology  
Richard O'Shea Assistant VP, Finance & Management  
Steven Brady, MBA VP, Finance & Management  
John McCabe, MD Sr. Assoc, Planning/Resource Management  
Thomas Donovan CFO, University Hospital  
Patricia Darcy, MSSS Associate Dean, Clinical Campus  
Steven Landas, MD Professor, Pathology  
Gary Johnson, MD Associate Professor, Emergency Medicine  
John Cardella, MD Chair, Radiology  
Gary Kittell Director, Physical Plant  
David Mitchell, PhD Professor/Interim Chair, Cell & Developmental Biology  
Stephen Albanese, MD Professor/Chair, Orthopedic Surgery  
Ann Barker-Griffith, MD Assistant Professor, Ophthalmology  
Burton Thomas Director, Facility Design  
Thomas Welch, MD Professor/Chair, Pediatrics  
Benjamin Rudd Student, MSI  
William Losquadro Student, MSII

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GOVERNANCE/ADMINISTRATION

Name Title/Department

Mantosh Dewan, MD, Chair Professor/Chair, Psychiatry  
Betty Ann Forbes, MD Professor, Clinical Pathology  
Steven Brady, MBA VP for Finance & Management  
Denice Jones Director, Affirmative Action  
Rajesh Davé, MD Dean, Clinical Campus  
Edward Shillitoe, PhD Professor/Chair, Microbiology & Immunology  
Hugh Bonner, PhD Dean, College of Health Professions

Thomas Poole, PhD Chair, Medical College Assembly  
Ann Sedore, RN, PhD COO, University Hospital  
Coleen Cunningham, MD Chair, Faculty Organization  
Joseph Stein, PhD Past Chair, Faculty Organization  
Ronald Young, MBA VP, Public & Governmental Affairs  
David Beach, PhD Chair, Educational Policies Committee  
Sunil Abraham Student, MSI  
Evan Grossman Student, MSII  
Joseph Jamal Student, MSII

#### LIBRARY/INFORMATION SERVICES

Name Title/Department

Laurie Thompson,MLS, Chair Director, Medical Library  
Barry Biddle, PhD Associate Dean, Clinical Campus  
Ronald Seymour, PhD, PT Associate Professor, Physical Therapy  
James Bryden Director, Accounting & Budgeting  
Catherine Caldicott, MD Center for Bioethics & Humanities  
Jacques Beaumont, PhD Associate Professor, Pharmacology  
Peter Beatty, PhD AHEC Coordinator  
Jennifer Martin Tse Registrar  
Joe Smith Director, Educational Communications  
Steven Taffet, PhD Professor, Microbiology & Immunology  
Richard Hunt, MD Professor/Chair, Emergency Medicine  
Matthew Gordon Student, MSI  
Surjit Chandhoke Graduate Student

#### GRADUATE MEDICAL EDUCATION

Name Title/Department

William Grant, Chair Associate Dean, GME  
David Heisig, MD Residency Program Director, Medicine  
John Manring, MD Clinical Associate Professor, Psychiatry  
Linda Newell, PhD Associate Director, OB/GYN Residency  
Heramba Prasad, MD Residency Program Director, Emergency Medicine  
John Andrade, MD Residency Program Director, Pediatrics  
Meiki Rose, MD Resident, Emergency Medicine  
Schuyler Sanderson, MD Resident, Pathology  
George Hatoum, MD Resident, Radiation Oncology

#### RESEARCH AND GRADUATE EDUCATION IN THE BASIC SCIENCES

Name Title/Department

Edward Shillitoe, PhD, Chair Professor/Chair, Microbiology & Immunology  
John Lucas, PhD Vice Provost for Research Development  
Andras Perl, MD Professor, Medicine  
Patricia Franklin, MD Associate Professor, Center for Outcomes Research/COM  
Jose Jalife, MD Professor/Chair, Pharmacology  
Steven Youngentob, PhD Associate Professor, Neuroscience & Physiology  
Maxwell Mozell, PhD Dean, College of Graduate Studies  
Michael Meguid, MD, PhD Professor, Surgery  
Ruth Weinstock, MD, PhD Professor, Medicine  
Michael Miller, PhD Professor/Chair Neuroscience & Physiology  
Charles Hodge, MD Professor/Chair, Neurosurgery  
David Temple Research Foundation  
Robert Aronstam, PhD Clinical Campus  
David Ayers, MD Associate Professor, Orthopedic Surgery  
Jennifer Moffat, PhD Assistant Professor, Microbiology & Immunology  
Surjit Chandhoke Graduate student

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#### STUDENTS/STUDENT LIFE

Name Title/Department

E. Gregory Keating, PhD, Chair Dean, Student Affairs  
N. Barry Berg, PhD Assistant Dean, Academic Achievement  
Barry Biddle, PhD Associate Dean, Clinical Campus  
Stephen Allen, MD Course Director, ICM  
William Grant, Ed.D Associate Dean, GME  
Don Midlam Associate Dean, Student Affairs  
Elinor Spring-Mills, PhD Distinguished Teaching Professor, Cell/Dev Biology  
Frank Smith, MD Associate Professor, Pediatrics  
Brett Steenbarger, PhD Director, Counseling Services  
Gregory Threatte, MD Professor/Interim Chair, Pathology  
L. Thomas Wolff, MD Distinguished Teaching Professor, Family Medicine  
Jennifer Welch Assistant Dean, Student Affairs  
Shawn Esworthy Director, Student Affairs, Clinical Campus  
Timothy Dennie Student, MSI  
Rachel Pessah Student, MSI  
Richard Bruckner Student, MSII  
David Orbach Student, MSII  
Jonathan Silberstein Student, MSII  
Leslie Trien Student, MSIV

#### STUDENT SURVEY

Name Title/Department

Ian Madom, Chair Student, MSIII  
Ross Borzykowski Student, MSIII  
Mary Ann Flynn Student, MSII  
Ari Jonisch Student, MSIII

Mita Sanghavi Student, MSI  
Anurag Shrivastava Student, MSIII  
Alyssa Stephany Student, MSII  
Jamie Thompson Student, MSI  
Mary Trusilo Student MSII