Summary Report: University of Kansas School of Medicine (KUSM)

Introduction

The University of Kansas School of Medicine (KUSM) is the only medical school in the state and graduated its first class in 1906. The current entering class size is 211 and the total student body is over 760. The educational and other missions are served by over 750 full-time faculty members supported by more than 2,000 volunteer or part-time faculty members. KUSM has campuses in Kansas City, Wichita and Salina plus an extensive network of affiliated institutions and community teaching sites in keeping with the mission to provide the core physician workforce of the state.

Since the last accreditation visit, KUSM has increased class size by expanding the Wichita campus to a four-year program and developing an innovative four-year campus in Salina. In addition, the school has conducted curricular reform and made significant improvements in the content and management of an array of educational programs. Also during this time, substantial growth of the clinical and research enterprises has contributed new resources for education, especially in terms of the number and diversity of clinical teaching sites, increased faculty size, and access to research expertise and opportunities for students.

The school has a history of using the accreditation process for quality improvement. The self-study for the 2005 reaccreditation identified key issues in the role of the executive dean and the curriculum committee that led to bylaws revisions and restructuring of the faculty governance organization charged with oversight and innovation in educational programs prior to the site visit. The momentum created by the 2005 LCME accreditation process laid the groundwork for the introduction of the current organ/systems-based modular curriculum, and facilitated fundamental changes in the assessment of students and the process of continuous monitoring and quality enhancement of programs.

In 2005, the LCME identified partial compliance with standard ED-1 as measureable data were not identified for all curricular outcomes. Two areas were also assessed as "in transition:"

- the new integrated curriculum (fully implemented in August 2006), and
- increase in average debt of graduating students (from $66,712 in 1999 to $100,925 in 2005).

The resolution of the partial compliance by revision of the graduation competencies, elaboration of the educational goals and objectives for the modules and clerkships, and explicit identification of educational outcomes measures for the competencies and objectives was confirmed by the LCME in its 2007 response to the first progress report. The area of transition related to the implementation of the integrated curriculum was resolved by submission of additional student performance and student satisfaction data as documented in correspondence from the LCME in October 2009. At that time, the area of medical student educational debt was maintained as "in transition" pending submission of further progress reports.

In 2009 KUSM presented plans to the LCME to increase class size by expanding the Wichita campus and initiating the Salina campus. Following extensive documentation and a 2010 Secretariat visit, an LCME letter in October 2011 identified that the issues related to medical student debt had been appropriately resolved and confirmed that KUSM was in compliance with all accreditation requirements, including those pertaining to branch campus development. This letter stressed the importance of appropriate resource support for branch campuses and indicated that this would be a focus of the 2013 review. To

address this concern and ensure the site visit team has all necessary information, the databases specifically address each campus in almost all standards, even when services are fully integrated among sites.

Planning for the current self-study began in February 2012. The process was managed by a 32-member Task Force assisted by an 11-member External Advisory Committee, composed of key external stakeholders. For each of the five sections (institutional setting, educational program, medical students, faculty, and educational resources), a 21-27 member subcommittee was appointed including students, faculty and administrators from all campuses and diverse areas of the institution. Each subcommittee held an initial in-person working day followed by interactive electronic meetings and detailed communications to prepare and refine the databases. These were then used to analyze and critique KUSM's performance. Statistical and logistical support was provided by the Office of Medical Education (OME) with additional data, information, and analyses provided by many units throughout the medical center and beyond. Coordination for the self-study was the responsibility of the Steering Committee consisting of the chair, co-chair and dean's liaison member of each subcommittee plus the senior associate dean for medical education, his executive assistant (LCME staff visit coordinator), the associate dean for medical education, the Wichita dean and the Wichita associate dean for faculty affairs. These latter five individuals met weekly as the project team. Open information sessions were provided on each campus and incorporated into the 2011 and 2012 annual faculty retreats, education retreats, and joint module and clerkship director retreats. Steering committee members conducted information/discussion sessions in each academic department and with student and external stakeholder groups. Regular updates were provided and feedback solicited at town hall, departmental and divisional meetings on all campuses; through routine communications media and a dedicated website; and as regular agenda items for governance committees, including the Faculty Council, Education Council and its subcommittees, and the Executive Committee of the Medical Faculty. The process of data-gathering, verification and exploration of potential areas for improvement in institutional function was facilitated by the close working relationships among individuals working in various teams, especially committees of the governance system, institutional strategic planning teams, leadership transition teams, and the LCME self-study committees and by intentionally overlapping the membership of the teams. The summary of the self-study was reviewed by all members of the KUSM Executive Committee as well as by the Task Force and External Advisory Committee. The databases and self-study subcommittee reports are available to committee members through the SharePoint secure website, and to all other KUSM faculty, students or staff members by request. As with previous self-studies, the current exercise has stimulated interest in and advocacy for improvements in the educational programs, most notably in the call for a more rapid transition to predominantly active learning strategies, comprehensive review of integration and synergy among curricular components, and direct admission to each campus.

I. Institutional Setting

Priorities to achieve the institutional mission are set and regularly reviewed by the executive vice chancellor (EVC)/executive dean in consultation with several groups, particularly the KUSM Executive Committee and leaders of the faculty governance system. Priorities for the medical school are developed within those of the University of Kansas Medical Center (KUMC) and University of Kansas (KU). A major strategic planning initiative led by the KUMC Strategic Planning Steering Committee coordinates interdisciplinary planning teams currently working in the mission areas of education, research, clinical services, and outreach. Strategic planning maps have been developed to guide the development of operational plans through 2016 in all mission areas and key components are being implemented. The internal communications systems appear to function well as shown by the faculty survey (December 2012) in which 72% of 437 respondents agreed/strongly agreed that the senior leadership had clearly communicated strategic priorities and direction to the faculty.

The ability of KUSM to develop and implement complex planning efforts is illustrated by the significant growth in clinical programs, research initiatives, curricular reform, and expansion of educational programs, including new campus development. The dramatic growth in clinical services required creation of new organizations and extensive collaborations with KU Hospital, clinical affiliates, and several academic and community organizations. This process continues to sustain/expand the dominant clinical position of KUMC in the Kansas City area. Similarly, the substantial gains in research infrastructure and productivity are based on over a decade of planning to mobilize both internal resources and diverse external partnerships, including private foundations and state support, to increase research workforce, infrastructure, and resources while improving efficiency and effectiveness. From inception, this planning was based on clearly identified priority areas congruent with the mission and built on areas of strength as well as identified areas of need. The many successes include establishment of a National Cancer Institute (NCI) designated cancer center and receipt of a National Institutes of Health (NIH) Center for Clinical and Translational Research Award (CTSA).

In education, the Education Council is responsible to the EVC/executive dean for planning to achieve educational excellence. Curricular revisions were conducted in 2006 and 2009 and the council is continually involved in partnership with administration in planning educational programs and conducting quality enhancement cycles through the system of regular review of modules, clerkships, academic periods, and the overall curriculum. The successful development of the four-year Salina campus and expansion of the Wichita campus to a four-year program were achieved through detailed planning and collaboration with community partners in those communities plus key external and internal stakeholders.

Overall, planning is fundamental to accomplishment of KUSM missions and significant successes have been achieved in each mission area. The medical school is actively involved in comprehensive strategic planning with KUMC and KU. The establishment of the KUMC Organizational Improvement Office (OIO) aims to ensure that the strategic planning process is sustainable, continuously improving, and being effectively operationalized.

Faculty governance is based on a Faculty Council empowered to conduct the business of the faculty. The membership represents all academic departments plus elected at-large faculty, student and chair representatives. The council meets at least quarterly. The major governance functions are conducted by the committees/council mandated by the bylaws, i.e. Academic and Professionalism Committee (APC); Education Council; Elections Committee; Research Committee; and the Appointment, Promotion & Tenure (APT) Committee. Each group and its subcommittees have elected and appointed membership, duties, and terms of reference designated in the bylaws of the medical faculty. Students participate in all groups except the APT Committee. The chairs of the council and the five major committees plus the leaders, chair representatives, and at-large members of the Faculty Council form the Executive Committee which works with the EVC/executive dean and administrative officers to conduct the business of the school.

The bylaws and a web-based guide to faculty governance are readily available and are provided at orientation to new faculty members. The bylaws are regularly revised, most recently in 2012-13, to ensure appropriate representation from the expanded campuses. Overall, the operational committees/councils function well, especially in education. The major concern reported by faculty is that efficiency is impaired by the high value placed on achieving consensus across a large, complex and geographically distributed organization. This is most apparent in Faculty Council. The bylaws mandate representative membership based on the size of individual departments. The near-doubling of the faculty has resulted in a large council that inhibits the “parliamentary” function of open discussion and makes consensus more difficult to achieve. The expanded departments have difficulty in ensuring that a full complement of members attends Faculty Council meetings. This impairs communication to and from constituents. While this is mitigated by effective direct communication within the faculty, discussions are underway to redefine Faculty Council membership, increase faculty interest/participation in governance, and improve

effectiveness and efficiency throughout the system. Various formats are under discussion, including a smaller Faculty Council with elected membership based on constituencies other than departments, and changing the proportion of elected/appointed/ex-officio members. The EVC took immediate action upon his appointment in February 2013 to reinvigorate faculty governance by instituting regular "town hall meetings" simultaneously conducted on all campuses through interactive television; charging the leadership team to increase faculty engagement in planning and decision-making; prioritizing regular meetings with the elected faculty representatives; and committing to separate the roles of EVC and executive dean in order provide a senior leader focused on KUSM and to foster collaboration within KUMC.

The Board of Regents has well-defined policies to prevent conflict of interest and these are effectively enforced. The board is appropriately involved in oversight of programs at KUSM but not in day to day operations. Board review and approval is required for substantive changes in the academic programs and their operations such as new degree programs, significant expansion, reduction or termination of programs, and changes in tuition or fees. Examples include endorsement of the expansion of the Wichita campus and the opening of the four-year campus in Salina. The board must also annually review the performance and outcomes of KUSM educational programs and must approve significant changes in policies and procedures applying to the medical faculty, including changes to faculty tracks and criteria for promotion and award of tenure. For example, a new faculty "educator" track applicable to non-clinicians has been proposed to the Board of Regents, and their approval is anticipated in September 2013.

Senior administrators of the medical center and university interact frequently and effectively. The EVC meets weekly with the chancellor and is a member of the cabinet, leadership council and other executive groups of the university. Constructive working relationships exist between individuals and teams of KUSM administrators and those of the university, KU Hospital, other KUMC schools, and major clinical affiliates. The EVC has responsibility for all professional schools in KUMC and collaboration among schools is expected, as shown in the current strategic planning activities. The productive partnership with KU Hospital developed over the last decade is a major achievement that has facilitated positive developments in several mission areas, including major clinical expansions in the Kansas City area and the recent development of a comprehensive clinical enterprise and resources for clinical research. Senior leaders within the school of medicine maintain close working relationships with clinical affiliates. Longstanding relationships facilitate collaboration between medical school administrators and clinical affiliates and community leaders.

The EVC/executive dean is well qualified to lead the complex organization and has years of leadership experience at KUMC. He took office in February 2013 after an orderly transition period of several months. His predecessor held the joint position for a decade. The dean of the Wichita campus and the senior associate dean for education also changed during 2012. The self-study committee concluded that these significant transitions had minimal impact on operations due to several factors including the positive momentum in research, education, and clinical services; the leadership of the interim EVC; the experienced team of associate/assistant deans and departmental chairs, including the senior associate dean for medical education (who led the self-study in 2004-05 and returned to this role in July 2012); the strategic analyses prepared by transition teams to inform incoming leaders; and extensive efforts to inform faculty, staff and students of developments. As reported in the December 2012 survey of the faculty, just over 75% of faculty members report they are familiar with the organization of the school, and the responsibilities of the deans and committees; 74% endorse that the senior leadership team has been effective in carrying out KUSM mission and plans; and 71% agree that KUSM acknowledges the importance of shared governance. A significant majority of faculty perceive the chancellor and EVC as knowledgeable/supportive of the educational mission (chancellor 69%, EVC 75%).

The most apparent impact of the leadership transition was a slowing in the strategic planning process that has since been corrected. Following the appointment of the new EVC, the strategic plans of KUMC and KUSM were completely reviewed to assess progress against expressed goals and objectives, to identify tactical initiatives that had been completed or were underway, and to realign the strategic plan with the vision and values of the new leadership. Rapid growth in the size and complexity of the organization has required administrative changes to optimize effectiveness and efficiency. Additional associate deans have been appointed in finance, research, and in medical sciences (Wichita). Also, a review of administrative structure is anticipated with the appointment of a new executive dean in late 2013.

Leadership at the departmental/unit level has been remarkably stable during the dynamic period since the last accreditation. Transitions have been orderly, mainly due to experienced faculty members serving as interim leaders and consistency of policies and practices in all major areas, including annual review of faculty and departments. A pilot program of chair leadership development provides 360° assessment and leadership coaching for departmental chairs. This program is new to KUSM but has been endorsed by other institutions and reflects the priorities in departmental chair development and support articulated by AAMC and in the literature. Along with other institutions across the nation, KUSM needs to pay more attention to the transition into retirement of the "baby boomer" faculty members, including leadership succession planning.

The contribution of the graduate programs to all missions is substantial and increasing due to the growing basic science, clinical and translational research programs. The accreditation record for those graduate programs that are subject to external review is good and the institution has a proven system of internal review to enhance program quality. A broad range of expertise is available in areas ranging from basic science laboratories, through community-based and field research programs, to areas including health informatics, economics, policy, and history/philosophy of medicine. Substantial investment has been made in core (shared) research facilities and interdisciplinary collaboration to support graduate programs. Graduate students assist in small group sessions during some required curricular modules and contribute significantly to student research activities. As the graduate programs expand, greater involvement of graduate students in active learning activities, research electives, and interdisciplinary courses is anticipated. Currently 72% of faculty perceives that students have opportunities to interact and learn with graduate students and students from other health professions. On the graduation questionnaire (GQ), the percentage of KUSM graduates reporting learning with students from other health professions rose from 63% in 2011 to 73% in 2012 (compared to 69% nationally). This will continue to increase due to initiatives being developed and implemented by the KUMC Center for Interprofessional Education and Simulation to ensure that all students in the health professions are prepared to practice in multidisciplinary teams.

A wide range of residency programs (over 800 residents in 57 ACGME accredited programs) contributes to medical student education on the Kansas City and Wichita campuses. In Salina, students interact with family medicine residents on almost all clinical experiences. All residency programs have good recruitment records. No major changes in the size or number of programs are currently planned but the many pending changes impacting residency education both nationally and locally could result in adjustments to KUSM programs, for example to increase primary care capacity. The residency programs are heavily invested in medical student education. Continuing medical education is integrated into several clinical courses/clerkships and provides a crucial resource for faculty development in clinical expertise, including services to community-based teachers in rural areas. The CME program was reaccredited with commendation in 2012.

Faculty research has grown substantially since the previous accreditation in 2005 as evidenced by the 51% increase in NIH funding and rise in ranking from 43rd to 34th amongst the 84 public medical schools. This growth has come through initiatives such as increasing faculty recruitment (more than 25 new research faculty, many with NIH funding) and infrastructure development, in concert with enhanced

partnerships with affiliates and the mobilization of community, philanthropic and state support. The priority areas of cancer, neuroscience, reproductive, kidney, liver, and cardiovascular disease were identified over a decade ago and were reaffirmed during the most recent review and revision of the strategic plan by the EVC. These priority areas tie to the institution's research strengths and to the most recent assessments of the potential for growth and positive impact on the region. The regional focus is in keeping with the institutional mission. Several basic science and clinical departments are in the top 25 for NIH funding among public medical schools. As the number of research-oriented faculty members has substantially increased, faculty training and mentoring opportunities have been expanded, and research opportunities for students and residents have grown. While the research enterprise is well established, the institution anticipates that funding may plateau or contract due to the prolonged period of economic uncertainty at national and state levels. Despite the many funding uncertainties, KUMC made significant gains during the depths of the financial crisis and is supported by the overall positive financial position of the institution, the growing opportunities in clinical and translational research (supported by the CTSA and NCI designation), the opportunities for research within the growing clinical enterprise, and expanding opportunities for collaboration among research affiliates. In addition, the reorganization of the institutional financial operation is expected to facilitate securing grant funding and to provide an expanded, more equitable research bridging program to mitigate the impact of future contractions in funding. The self-study concluded that cautious optimism about stabilization or continued modest growth in the research enterprise is appropriate.

A broad spectrum of research opportunities is available to students, especially in summer programs and electives. Four joint degree programs with heavy research content are available. The required senior research experience focuses on community-based and quality improvement research. New strengths in clinical and translational research are being exploited for student participation and the number of students participating in summer programs after the first year has increased significantly from 55 (31%) in 2006 to 179 (94%) in 2012. Adequate opportunities and support (technical and financial) are available for students with research interests and students are well-informed about the research opportunities. Over 76% of the faculty perceives that students have sufficient opportunities to participate in research and scholarly activities with faculty members and 80% of 2012 graduates reported participation in research.

Several clerkships incorporate required service learning opportunities, such as the community project component of the Rural Preceptorship and the JayDoc Clinic requirement of the Family Medicine Clerkship. Many more service learning activities are available on an elective or voluntary basis. Multiple additional opportunities for service learning are encouraged and available but may not include the formal preparation and/or structured follow up components required to meet the full criteria for service learning. Community service is part of the institutional culture. Students participate in a wide range of projects and activities serving diverse groups, including international projects. KUSM supports service learning activities both directly and indirectly, principally by sponsoring and funding student organizations. Students learn about research and service learning activities through required class meetings, dean's hours, formal announcements, e-mail communications, networking, academic societies, and advising services. Over 83% of the faculty reports that students are encouraged and enabled to participate in service learning. Only about half of 2012 graduates reported participation in service learning in the AAMC Graduation Survey (GQ) but feedback indicates that students were unclear of the definition and many equated the question with voluntary community service. This is being addressed by improved student communications.

The institution has extensive goals, policies and an array of interconnected programs to promote diversity and inclusion. Significant efforts are made to ensure policies, practices, and expectations are known and followed throughout the institution, including an annual web-based certification required of students, faculty and staff. The groups defined as adding value to the learning environment are those under-represented in medicine (URM) i.e. Native American/Pacific Islander, African-American, Hispanic,

certain Asian groups, plus individuals from rural or disadvantaged backgrounds. The last two categories are not applied to residents, faculty or staff. The student population reflects that of the state in the Native American and African-American groups. The Hispanic/Latino population in Kansas has increased rapidly in recent years. Programs addressing this group are developing rapidly but may still be in a "lag" phase in impacting admissions. Data are not available on Asian subgroups in the state population and KUSM is considering more precise definitions for this group. The URM Asian group is predominantly Vietnamese. An aggressive "pipeline" provides a range of programs and services targeting different groups, all aiming to raise interest in health professions and enhance competiveness of potential medical school applicants from the targeted groups. These programs range from science enrichment in elementary schools to scholarships and assured admission programs. Many are based on robust partnerships with the community and other institutions. Programs continue through pre-matriculation to provide support services during medical school.

Since the last accreditation, KUSM has attracted significantly more African-American and Hispanic student applicants (increased by 119% and 63% respectively), improved their representation in the student body, and doubled their rates of successfully completing the process from application to matriculation. In particular, KUSM now competes well for qualified minority students who hold acceptances from multiple schools. While progress is apparent on diversity in students, like other schools in the region KUSM struggles to increase the diversity of the faculty. Programs are in place to recruit, retain, and develop URM faculty members and these programs address each of the key issues identified in the literature. Strategies include specific monitoring, peer support and faculty development resources in addition to those generally available to faculty members. Currently the chancellor and two departmental chairs are African-American as are the chairs of the Elections Committee and Education Council. KUSM makes significant efforts to ensure that eligible URM candidates are identified during faculty, chair and leadership recruitment efforts, including the full resources of the KU campus in minority recruitment. Especially in Wichita, feedback from candidates cites the relatively small numbers of minority professionals in the community as a consideration. Nevertheless two (25%) of the eight new full time faculty hires in Wichita during 2011-12 were minorities. Overall, in 2011-12, 31.2% of over 7,000 applicants, and 30.5% of the 449 individuals selected for KUMC employment were minorities. Progress is being made but is only slowly impacting historical patterns.

The curriculum provides multiple and varied learning opportunities in cultural competence and related topics. Both residency directors and students report good preparation in this area. In the faculty survey, 76% agree the diversity of the student body is adequate for the educational mission, and 65% agree/strongly agree that the diversity of the faculty is adequate. In the independent student analysis survey (June 2012), ratings for the diversity of the student body ranged from 3.29 to 3.68 by class on a 4.00 scale. The students rated the diversity of the faculty slightly higher with 3.47 to 3.74 on a 4.00 scale.

II. Educational Program for the M.D. Degree

Educational Objectives

In the 2012 survey, 82% of faculty reported familiarity with educational objectives and 81% perceived them as useful guidelines for program planning and evaluation (the survey included those not significantly involved in education). For students, the percentages agreeing the objectives were useful in learning ranged from 83% of first years to 96% of fourth years. Individuals involved in education, including administrators, staff and residents, are very familiar with the objectives through orientation, ready accessibility, frequent reference in meetings and daily activities, and by the regular use of the objectives as the template for planning all curricular content, conducting student and program assessments, and the design of all surveys relating to educational programs.

The educational objectives are based on Accreditation Council for Graduate Medical Education (ACGME) terminology and stated in specific terms that guide program development, student assessment, and program evaluation. The Education Council uses the objectives to address strategic, integrative, and major issues such as selection of content, approval of modules/courses/clerkships, and opportunities for enhancement of curricular organization and management. Every module/course/clerkship derives its objectives from the graduation objectives such that each general concept is expanded and applied; in turn each module/course/clerkship objective is mapped back to a graduation objective. Individual clerkships have responsibility to validate student experience in specified clinical conditions and competency in designated clinical skills.

Student assessment in clerkships is based on a standard clinical performance rating (CPR) form that uses specific outcome-based language directly linked to the graduation objectives. The skills, knowledge, attitudes, and behaviors described in the graduation objectives are assessed using a four point Likert scale (with descriptive anchoring statements) plus narrative comments. A modified CPR form is used in mid-course/clerkship assessment. The graduation competencies also provide the templates for the multiple data-gathering exercises that inform program evaluation at the module/course/clerkship and curriculum levels. In addition to evaluations completed at the end of each module/course/clerkship, regular evaluations by semester and year are completed by each class of students. Additionally, graduating students complete an overall retrospective evaluation, and an annual survey of KUSM graduates is requested from residency directors. Although each survey has additional questions to address specific needs, use of the standard objectives-based template enhances understanding and use of the same terminology throughout the institution and provides a consistent data set to monitor achievement of objectives from several perspectives. Data are managed by the Office of Medical Education (OME) that provides regular analyses of the results to the Education Council and the phase oversight committees and is responsible for the data needs of course review committees, working groups, and administrators. These analyses, along with data from multiple other sources, inform the ongoing process of curricular improvement based on clear mission-based objectives. Specific examples of changes made to accommodate the most recent revisions of the objectives include the Evidence-Based Medicine (EBM) initiatives in response to the revised medical knowledge objectives and the development of standardized patients with different backgrounds/presentations throughout the curriculum to address the expanded communications, cultural competency, professionalism, and systems-based practice objectives.

The curriculum objectives and competencies were developed by the faculty and are regularly reviewed in light of recommendations from national educational and specialty organizations (both scientific and clinical) and the literature to ensure a well prepared graduate. Outcome measures have been developed for each objective, selected from a range of options to assess acquisition/application of knowledge, proficiency in technical skills, and demonstration of appropriate professional attitudes and behaviors. The measures include clinical skills performance, scores on National Board of Medical Examiners (NBME) testing, cumulative faculty and resident assessments, and completion of research and special projects. The CPR form provides a consistent monitoring of student performance across curricular components. Outcomes data and analyses are provided to program management groups and administrators as part of ongoing quality enhancement. Analysis suggests that the trend of below-average results on Step 1 USMLE examinations is predominantly due to admitting students who have low academic scores but possess characteristics that indicate potential to be excellent physicians. The KUSM invests in such individuals as part of the social mission. Step II scores indicate such students overcome their initial academic disadvantage by graduation.

Surveys monitor student assessment of the helpfulness of each basic science module in preparation for clinics and the clerkship directors' assessment of this preparation. The highest rating (86% satisfaction and 3.84/4.0 ranking) are for the Integration and Consolidation module at the end of the second year. Senior students and graduates perform at about national means on USMLE examinations. The strongest

validation of achieving curricular goals comes from graduates and surveys of residency program directors. The percentage of graduates “satisfied with my medical education” has risen from 84 to 93% since the 2005 accreditation. In annual surveys, residency program directors assess KUSM graduates as performing above peers overall in ACGME competencies, with particular strengths in communications and aspects of professionalism. Students rate their level of preparation for residency by specific topics as "good" or "excellent" on both internal surveys and the AAMC Graduation Questionnaire. 89% of 2012 graduates were confident in their clinical skills to enter residency with only 2% disagreeing.

The web-based clinical logging system monitors student experience in types of patients, clinical conditions, technical skills, clinical environment, and degree of student participation in the patient encounter. The system facilitates student access even from remote sites, and uses drop-down menus to reduce data entry time and minimize variability in documentation. The faculty members responsible for each clerkship have determined minimal clinical experience targets that are regularly reviewed. Oversight and coordination among clerkships is managed by the Phase II (years three and four) Curriculum Oversight Committee and the entire process is centrally monitored by the phase II director with logistical support from OME. In addition to verifying experience, the system informs the mid-clerkship assessment and provides management data at the course/clerkship and overall curricular levels. It can also generate data reports for special needs. Data from logs are combined with other feedback and assessments of and by students to ensure that students have appropriate clinical experiences. Although students complain about the requirement to track patient encounters, they recognize the value of the data and appreciate the efforts to make data entry as quick and easy as possible. Clerkship directors value the data as a resource in preparing assessments for individual students and for monitoring the consistency and appropriateness of clerkship experiences across sites and time periods. Clinical resources are consistently more than adequate to ensure all students have the required clinical experiences, but all clerkships have developed strategies to detect and compensate for any deficiency in clinical experiences. In the independent student analysis survey 95% of third year and 98% of fourth year students were satisfied or very satisfied with the availability of patients for clinical teaching.

Structure of the Educational Program

The curriculum objectives/competencies are designed to prepare graduates who possess the knowledge, skills, attitudes and behaviors to succeed in graduate medical education in any medical specialty or subspecialty. The curricular design aims to ensure mastery of core content and to facilitate integration, application, and extension of knowledge through emphasis on clinical application during phase I (years one and two) modules. In phase II, students complete required clerkships in the major specialties and design an individualized program of study in the fourth year through elective (16 weeks) and selective (12 weeks) courses as well as a required Health of the Public project and Rural Preceptorship. Summer electives are available after year one. Students regularly rank the adequacy of number and variety of electives as greater than 4.0 on a 5 point scale in the graduate survey, but some students would appreciate the opportunity to experience specific clinical subspecialties before making career decisions. The curricular re-arrangements resulting from the 2013 decision to discontinue the Medicine Across the Lifespan module may make this possible. Evidence from the curricular reviews conducted by the Education Council, data from residency matching, career success of graduates, and survey data from graduates, students, residency directors and others verify that students are well prepared for residency training in any branch of medicine.

Skills in medical problem-solving and evidence-based clinical judgment are developed through teaching of concepts in the first module, expanded and reinforced by multiple exercises and patient care (both simulated and real) as the student progresses through the curriculum. Along with increased content in all modules, the evidence-based medicine (EBM) initiative links and reinforces these skills across modules. In phase II, these skills permeate clinical teaching and are increasingly important in learner assessment as

projects, problem solving exercises, and deductive reasoning scenarios displace reliance on knowledge recall testing. Students quickly learn to factor societal and organizational concerns into clinical decision making because of their immersion in patient care during phase II and the substantial efforts to integrate clinical context into teaching in phase I. Specific aspects of societal needs/demands and organizational factors are addressed in each of the phase I modules and phase II clerkships/courses. The longitudinal Issues in Clinical Medicine (ICM 900/975) course focuses on societal/organizational issues throughout the third year and these topics are commonly addressed through academic societies and other activities focused on professional development. In the senior year, students address societal and related issues through patient care and in the required Health of the Public project. Several summer experiences and electives, including international experiences, also focus on societal aspects of health and patient care. Student and residency director surveys indicate that integration of social context is a strength of KUSM graduates.

Active learning/independent study is an increasingly important component of the educational program to prepare future physicians for life-long maintenance of certification and participation in continuous quality improvement. Each module/clerkship has active learning components and faculty members strive to match these to the educational needs and developmental stage of the students. In general, early phase I students require most support/validation in setting their own objectives and in evaluating and prioritizing technical information. They are usually very adept at accessing information, collaborative project work, and presenting confident, well-illustrated outcomes. More senior students tend to use faculty as mentors/tutors to verify key items such as finalization of measurable objectives, selection of learning strategies, and interpretation of outcomes. A variety of active learning requirements and opportunities are included in the curriculum, each with its own assessment strategy and the requisite skills are assessed longitudinally in the CPR form. The senior Health of the Public project serves as a capstone demonstration of active learning capabilities. In the independent student analysis survey, 91% of first year students were satisfied or very satisfied with opportunities for self-directed, independent learning. It is hoped to achieve similar levels of satisfaction in all years as this cohort moves through the curriculum and the transition to active learning strategies progresses. In the faculty survey, 80% agreed/strongly agreed that students have sufficient opportunities for active learning and independent study to foster lifelong learning skills (only 5% disagreed).The Education Council has set policies to transition to active learning as the predominant learning strategy and the institution has committed to this concept including changes/upgrades in educational space, library and technologies that specifically support active learning, interprofessional activities, and competency-based assessment (especially simulation).

The extensive efforts to ensure comparability among campuses include identical module/clerkship objectives and assessment methods, identical requirements for core patient care experiences (tracked through the logging system), shared course development and management, frequent communications between directors and among faculty members at different sites, and the systematic course/clerkship review process. All modules and many clerkships share materials and web-based resources across all sites. Consistency across sites is monitored by the phase oversight committees and Education Council through regular review of outcomes and director reports at the end of each module and once per semester for clerkships. The OME provides data and narrative feedback by site to inform these regular reviews. Central monitoring across all sites is the responsibility of the phase I and phase II directors who report to the associate dean for medical education. Each module/clerkship is also peer-reviewed at least every four years as a single unit provided on several sites. The module/clerkship directors and the sponsoring academic departments have shared responsibility to conduct the internal assessment component and to facilitate the other components of this peer-review process. Consistency of process and outcomes across sites is a major component of the review. The system to ensure consistency of educational quality works well, mainly due to close communications among clerkship directors and the active monthly phase oversight committee meetings. Clerkship directors are able to discuss with peers issues such as how to take maximum advantage of local resources while ensuring students on all sites are given comparable

educational opportunities. Within individual clerkships, directors monitor equivalency of experience across sites using student feedback, mid- and end-of-clerkship reviews, log data, and direct contact with the sites. The clerkships that use community preceptors most extensively have "academic detailing" programs to regularly monitor student experience through regular site visits.

The emphasis on clinical problem solving throughout the curriculum requires students to continually apply the scientific method and to access, interpret and apply original research, particularly in clinical topics. Evidence based medicine (EBM) and opportunities for translation of research to patient care are core to clerkship learning. A Phase I Committee initiative is underway to enhance the necessary knowledge and skills at the beginning of first year and improve synergy across the curriculum by linking content in EBM in successive modules. In addition to the strong emphasis on application of science, KUSM has rapidly increasing opportunities for students to participate in research. Over 30 research electives are available in addition to summer programs, special projects, and joint degree or certificate programs. Over 90% of students participate in summer programs after the first year. All fourth-year students must complete a Health of the Public project requiring problem identification, analysis and development of evidence based recommendations for solution. It is hoped to increase curricular content in clinical and translational research as the CTSA develops. In the 2012 GQ appropriate instruction in interpretation of research data was reported by 88.5% of students.

All the required curricular content areas are addressed and regularly reviewed as part of the system of regular reports plus in-depth systematic course reviews. The Phase I Curriculum Oversight Committee leads initiatives to address any area where outcome measures, including student feedback, indicate sub-optimal preparation in basic science topics. Phase I modules are transitioning to much greater use of active learning. This requires more attention to content tracking and student assessment to validate that core concepts have been understood and can be applied by students. The GQ results indicate steady improvement in preparation for phase II in basic science disciplines and this is expected to improve significantly as the classes benefiting from curricular changes move towards graduation.

KUSM has longstanding strengths in preventive medicine, promotion of wellness and comprehensive patient care, including continuity of care though chronic conditions and management of complex multi-pathology situations, compounded by social and other factors. These elements are integrated throughout the curriculum and given special emphasis in the required geriatric and family medicine clerkships. Student survey data show significantly higher rates of preparation for KUSM compared to other schools in preventive, chronic, continuity, and end of life care with 85-94% of KUSM students ranking instruction as appropriate. Results are lower for rehabilitation and discussions are underway to expand this topic within the geriatrics and primary care clerkships as well as to increase clinical content in the musculoskeletal and other modules. Topics related to determinants of health, societal aspects of health, health promotion/disease prevention, and the diagnosis and management of disease are also integrated throughout the curriculum, including extensive clinical correlations and application in phase I and the longitudinal ICM 900/975 third year course. Many of these issues are addressed by integration into standardized patient scenarios to stress the importance of their impact on clinical situations. Student surveys report very high levels of "appropriate" instruction (82-94%) and preparation to manage these complex aspects of patient care.

KUSM takes a pragmatic approach to issues of cultural competency and professionalism (including ethical and bias issues). Didactic teaching and required materials provide core language, concepts and frameworks in several courses/clerkships. Students are enabled to understand and use these concepts and skills through simulated clinical situations and supervised/mentored patient care. The use of seminars in courses/clerkships and the discussion formats of ICM 900/975 and academic society meetings encourage discussion and open exploration of these challenging topics, including how they can best be addressed in practice. More personal discussion and individual skill building in all aspects of professionalism takes place through faculty advising, clinical supervision, and student organizations. The growing emphasis on

patient safety, interdisciplinary teamwork, and quality enhancement in the clinical settings, has greatly assisted students in appreciating the importance of these topics as core to excellence in clinical practice and enhanced learning. Residents have been very influential in "mainstreaming" many topics related to professionalism and quality enhancement.

The same influences facilitate learning about effective communication, including situations complicated by language, cultural or other problems. Throughout modules, courses and clerkships, the major learning strategies are provision of core resources, didactic teaching, practical application in PBL/seminar and/or standardized patient scenarios, and supervised practice (including preceptorship in phase I). The students are required to address a wide range of communications challenges in the curriculum. Interest is now focused on improving linkage between curricular elements to provide a more cohesive and integrated curriculum in communications and related topics. Student surveys report high levels of preparedness in communications and related topics: 97.7% agreed/strongly agreed that they felt prepared to care for patients from different backgrounds. In the 2012 GQ, 89.4% of students reported instruction appropriate in physician-patient skills, 87.2% in use of interpreter, and 79.8% in physician-physician communication. Between 83 and 92% of students report "agree" or "strongly agree" about confidence to address each of the challenging communications scenarios cited in the 2012 GQ, indicating good preparation across a spectrum of communications skills. The lowest rating (62%) concerned assessing alternative medicine use. The residency directors surveys consistently rate KUSM graduates above their peers in communication skills with patients, families, peers, staff and other health professionals. Sub-scores from USMLE Step 2 CS also validate good preparation in communications skills by KUSM students.

Students learn in multiple environments from critical care units to community sites, including long term care facilities and patients' homes. All clerkships, except internal medicine, require outpatient experiences. The balance of in- and out-patient experiences is incorporated into consideration of the optimal learning environments by the phase oversight and course/clerkship review committees and centrally monitored by the phase II director. KUSM uses a network of clinical and community affiliates to access teaching sites throughout the state. All sites must meet criteria for facilities, student support, and communications capacity. Extensive efforts are made to communicate with and provide academic support to community site faculty, including preceptors serving in rural or frontier areas.

Teaching and Assessment

The adequacy of student supervision is assured through several mechanisms including oversight by clerkship directors, residency program directors and departmental chairs; peer support from the health care team; student feedback (survey, verbal and patient encounter logs); and the professionalism requirements for students, residents, and faculty members. Professionalism requires taking action if patient safety is compromised by inadequate supervision of a learner and includes responsibility for peers. Student feedback at the end of each module/clerkship and phase I preceptorship includes adequacy of clinical supervision. Family medicine and geriatrics clerkship faculty visits to community preceptor offices during student assignments (academic detailing) include adequacy of clinical supervision. Only graduate students or residents in KUSM graduate medical education programs or professionals with current faculty appointments are permitted to teach or assess students. This is strictly enforced by module/clerkship directors and coordinators, supported by departmental chairs. The chair and associate dean for faculty affairs review departmental faculty rosters annually. Central monitoring is provided through the senior associate dean for medical education and dean of the Wichita campus. In the June 2012 LCME independent student analysis survey, over 90% of students reported being satisfied or very satisfied with exposure and accessibility to attendings and residents during clinical clerkships. The clerkships with lower ratings for "faculty/resident supervision of patient care activities" instituted a series of changes, including a change of clerkship directors. The outcomes are being closely monitored

especially in reported supervision, feedback, and overall quality of teaching in these clerkships (Surgery-KC, Obstetrics/Gynecology and Psychiatry-Wichita).

All teachers, including residents and graduate students, receive orientation, resource materials, and reminders/updates about curricular objectives, especially those of the specific module/clerkship in which they teach. Factors that reinforce familiarity and utility of objectives include their modeling on ACGME competencies and the design of student assessment and feedback instruments that teachers complete repeatedly. Resident participation in seminars or web modules to develop basic skills in teaching and assessment is mandatory and monitored through reporting to the senior associate dean for medical education and dean of the Wichita campus. Additional programs, ranging from seminars/workshops to attendance at national educational conferences, are provided by departments to meet specialty-specific needs in teaching. Residents may also attend many faculty development programs. Faculty teaching and assessment skills are developed and enhanced through comprehensive faculty development programs serving all campuses and including programs to support community teachers. The Salina campus faculty development has a special focus on preparing clinical faculty in objective competency-based assessment. All teachers, including residents, receive feedback as a basis for continuous improvement of teaching.

A wide variety of testing and assessment methods is used, but faculty members are developing more sophisticated assessment methods and strategies to support the transition to active learning and validation of competencies. Growing faculty expertise in assessment is supported by the increased experience and technical capabilities of OME, other KUMC units, and resources accessed through national educational groups. In recent years, adjustments have been made to better identify borderline students, eliminate the "low satisfactory" grade, and align strategies and techniques/tools with competency-based rather than norm-based standards. Working groups are currently developing proposals for multiple formative tests with feedback/coaching in phase I and a pass/fail system for phase II. Simulation and active monitoring of performance will continue to become more significant elements of assessment. In the LCME survey, 89% of first year and 86% of second year students were satisfied or very satisfied with methods to assess student achievement. Clinical students varied in their assessment of "fairness of exams and grading" in the independent survey for the LCME self-study. Issues in assessment in the family medicine clerkships related to the role of written examinations were identified and have been addressed. Other outliers in the student ratings of clerkships concerned subjective assessment by clinical faculty in the three clerkships identified above. The initiatives undertaken in these clerkships have resulted in improvements in the related issues of clinical teaching, feedback, assessment, and time to complete grades.

Formative feedback is essential in the move towards competency-based assessment. In phase I, frequent web-based formative quizzes provide students opportunities to monitor their mastery of material and to focus learning and faculty coaching more effectively. Narrative feedback is integrated appropriately into several phase I modules. Faculty members provide in-person and e-mail support for individual students. Voluntary group sessions provide coaching based on NBME-style scenarios for examination questions. In addition, the Office of Student Affairs provides supplemental instruction programs. Although originally intended for "at-risk" individuals, these programs are open to all students. These programs work well; the major concern is that not all students who could benefit from the programs choose to make full use of the services that help students to recognize and address areas of weakness. This concern is being addressed through increased communication concerning the availability of these programs directly to students and through advising systems and student organizations.

The widespread use of coaching styles in clinical teaching (e.g., the "microskills") results in students receiving continuous feedback on performance related to objectives, including aspects of professionalism. Formal in-person, mid-clerkship feedback is required and includes narrative comments as well as review of patient encounter data and assessments on the modified CPR form. Clerkship administrators must send individual reports signed by both the student and clerkship director (or faculty member who participated in the session) to OME or Academic and Student Affairs-Wichita (ASA) to document the discussion and

plans for the remainder of the clerkship. OME/ASA monitors all clerkships for compliance with the 100% requirement and alerts the senior associate dean or Wichita dean in cases of non-compliance. For all but two phase I modules, over 90% of students reported satisfied or very satisfied with "feedback on progress in learning the material" in the LCME survey. Specific issues were identified in the Infection and Immunity module related to student discomfort with a substantial change in teaching strategy that involved much more active learning, including a requirement for presentation to the entire class followed by open critique. Changes have been made to better prepare students for the types of public presentations inherent in active learning and to augment the coaching skills of the faculty, especially as discussants of public presentation of student group projects. In the Medicine Across the Lifespan module, problems in providing consistent useful feedback was only one of a number of issues contributing to the Education Council's recommendation to discontinue the module and redistribute the content to other parts of the curriculum. The executive dean recently accepted this recommendation. Student rating of feedback during clerkships varied but was above 3.00 on a 4.00 scale for all but two of the clerkships already identified as under-performing. The changes in clerkship leadership and other adjustments have resulted in improvements since the June 2012 survey. On-going monitoring provides reports to the Phase II Committee and senior associate dean for medical education/Wichita dean about progress in addressing the cluster of related issues in these outlier clerkships.

Students are directly informed of grades by course coordinators as well as through the Enroll &Pay system run by the registrar. Following the curricular revisions of 2009, grading became more complex due to the larger number of individuals providing input and the increase in the number of areas of student performance considered. Nevertheless, OME monitoring and feedback from students and administrators indicated that almost all students received grades within four weeks. Many clerkship grades, however, were not entered in Enroll &Pay within this time limit, triggering reminder systems to course directors and additional notifications to chairs and senior educational administrators. The Phase II Curriculum Oversight Committee worked with the registrar, OME, OSA/ASA, and student representatives to investigate the discrepancy in the times to final grades as recorded by the registrar and those reported by students and course administrators. This investigation identified several systems issues that were resolved. Changes in the reporting system were fully implemented by October 2012. The times to receive grades and percentage of students with delayed grades as recorded in the Enroll &Pay system have fallen dramatically. OME now works more closely with the registrar to monitor grade reporting and to promptly alert the senior associate dean/dean of the Wichita campus of any delays so corrective/preventive action may be taken. A 100% six-week reporting benchmark has been achieved in almost all third year clerkships and the clerkships with the slowest reporting have identified delays by individual faculty members in completing evaluations and are addressing these issues.

Core clinical skills are specified in the graduation objectives and appendices and competence in these clinical skills is achieved through activities in individual modules/clerkships. Mastery of specific technical skills is documented by "sign off" cards completed by observing faculty members on the clerkship identified as responsible for that skill. Validation of overall skills is achieved through repeated observation and assessment during clerkships and by the three formal clinical skills assessments--one at the end of year two and one at the end of each semester of year three. Students are observed by preceptors during phase I and by faculty members and residents during daily patient based teaching in phase II. Clerkships have instituted mandatory observed clinical case assessments with faculty sign off to ensure that every student demonstrates core clinical skills including history taking, physical examination and clinical problem-solving. Formative standardized patient sessions are also utilized to build clinical skills. The final clinical skills assessment (CSA) is a 12-station daylong assessment modeled on USMLE Step 2 CS that evaluates overall performance plus performance in several categories including patient assessment, communication, diagnostic reasoning, and documentation. Faculty observation, standardized patient assessments, and post-encounter note scores contribute to the assessment of each student. Students in the lowest 20% of the class are offered coaching in areas of poor performance. Students report feeling

well prepared in clinical skills and are successful in USMLE Step 2CS examinations. In the faculty LCME survey 86% agreed/strongly agreed that students are adequately prepared for residency. The residency director survey rated KUSM graduates as equivalent to peers in overall "patient care" and slightly above graduates of other schools in history and physical examination skills and performing procedures. Increased use of simulation for skill development and verification plus more opportunities for interdisciplinary learning are priorities in continuing to improve clinical skills training.

Curriculum Management

The Education Council is responsible to the executive dean for the regular and timely review of the content, implementation and evaluation of the curriculum. The council is specifically charged with encouraging and fostering innovation in the curriculum and monitoring outcome measures in order to make recommendations for improvements in educational programs. The strategic perspective of the council is complemented by its operational subcommittees – the Phase I and Phase II Curriculum Oversight Committees. Comprised predominantly of module/clerkship directors, these committees meet monthly to address operational issues and facilitate communication, coordination, and collaboration across modules/courses/clerkships and sites. The phase committees review comprehensive routine reports plus feedback and assessment data by semester for clerkships and after each annual module and make recommendations to the directors and departments for improvements. The committees forward each routine review with comments to Education Council and senior administrators.

The system of routine module/clerkship review and quality improvement based on data analyses from OME is complemented by regular systematic in-depth review of each module/clerkship. Systematic module/clerkship review is a major component of the work of the phase committees. Every required module/clerkship undergoes detailed peer-review at least every four years. This process involves a standardized self-assessment, review by a committee of at least three peers plus two student representatives, and interviews with directors, departmental chairs and others to achieve a comprehensive assessment of the module/clerkship. The OME provides data and staff support to these and other groups. The reports are discussed by the appropriate phase committee then forwarded with committee recommendations to the Education Council. After council consideration, the director(s) may submit a response to the report. The report (amended if necessary) and response are then formally forwarded to the senior associate dean for education and Wichita dean. In addition to receiving the formal final report, the senior associate dean, the Wichita dean, the associate dean for education, and the phase I and phase II directors are informed and involved throughout the process as a result of their membership on Education Council and their attendance at phase oversight committee meetings.

Outcomes of the module/clerkship reviews may include requests for additional information, specific actions, follow-up reports, or full or partial reviews on a shortened time schedule. Concerns in the educational program or individual courses are typically addressed by one of three strategies. As described above for the issue of delayed grade reporting, the phase curriculum oversight committees manage the problem analysis and the development and implementation of solutions in collaboration with appropriate administrators. In this example, the Offices of Student Affairs on both campuses and the registrar were the main collaborators. Alternatively, the Education Council may establish a task force or working group to address a specific issue. Examples include the 2009-10 working group on the fourth year and the more recent groups considering changes to student assessment and grading in both phase I and phase II. Less commonly, external consultants may assist in analyzing and proposing solutions to challenging areas. The most significant recent example of problem identification and solution is the Medicine Across the Lifespan (MAL) module. Concerns were initially identified through the routine student evaluations and annual module report. These were addressed by significant changes in module leadership, content and design. These changes were monitored by the phase I director and oversight committee with reports to Education Council and administration. When outcomes failed to show significant overall improvement, a

systematic course review was instituted. This report, plus input from other sources resulted in the difficult recommendation to discontinue the module. The final decision by the EVC/executive dean was made after a formal recommendation from the Education Council. Faculty, students, administrators and sponsoring departments were engaged throughout the process.

The system of curricular management and enhancement is generally considered to be effective but not always efficient. In the 2013 survey, 70% of 355 faculty agreed that the management structure had made constructive changes (only 5% disagreed) and 71% endorsed collegial relationships among educators but satisfaction with overall efficiency was 66%. The major area for improvement is the time to make decisions. The various groups invest heavily in discussion and attempts to reach consensus on complex issues. Faculty and administrative leaders have identified streamlining committee operations and improved preparation of members (especially chairs) for their roles as priorities and are developing appropriate strategies.

The Education Council and its curriculum oversight committees for phase I and phase II are charged with ensuring that content is coordinated and integrated within and across academic periods of study and that gaps/redundancies are addressed. These committees meet monthly and use the mechanisms described above to monitor educational programs. Annual retreats, such as the Medical Education Retreat and the Combined Phase I/Phase II Module/Clerkship Directors Retreat are used for more in-depth consideration of issues impacting the entire curriculum. Curricular overview and assessment of issues of vertical and horizontal integration/synergy is greatly facilitated by the data and staff support provided through OME. OME now has available advanced curricular management tools that can provide the information to inform assessments and decisions. Integration is also enhanced by the overlapping membership of committees/groups and open communication between faculty members across departments and campuses. Clinical skills training has provided a longitudinal linkage between modules/clerkships for over a decade. Linkage in specific areas is provided by the centralized responsibility for the integrating of topics such as epidemiology, biostatistics, ethics, health economics, health policy and related topics throughout the curriculum. Development of longitudinal initiatives ("threads") is underway in evidence based medicine (EBM), patient safety, nutrition and other areas. Planning has begun for an in-depth curricular review with focus on transitioning to a predominantly active learning model, ensuring horizontal and vertical integration, and enhancing evaluation methods to better serve competency-based education.

The authority of the EVC/executive dean in medical education is delegated from the chancellor. The executive dean and senior administrators, chiefly the dean of the Wichita campus, the director of the Salina campus and the senior associate dean for medical education, have demonstrated ability to plan and implement major changes to achieve institutional goals such as curricular revisions, development of the Salina campus, and expansion to a four-year campus in Wichita. These changes require both the exercise of authority and collaboration with internal and external partners. As specified in the bylaws, the faculty has significant control over curricular content but the executive dean has ultimate authority over curriculum structure and management across all campuses. The executive dean negotiates funding for medical education and determines the budgetary allocations to each campus. In Kansas City, the executive dean, in consultation with the senior associate dean for medical education, determines funding for education and student support services to individual departments and units. The effectiveness of chairs/directors in using budgetary allocations to accomplish educational objectives is explicitly evaluated annually. The dean of the Wichita campus determines how the allocated educational block funds are distributed on that campus. The performance of the Wichita dean and the campus educational program is reviewed annually by the executive dean and any necessary adjustments in Wichita allocations are made in a consultative process. The executive dean has full oversight and budgetary authority for the Salina campus where the entire budget is dedicated to the medical education program and student support. The budget is prepared by the director of the Salina campus and the senior associate dean for medical education with assistance from the finance office. The effectiveness of the Salina campus in achieving

educational objectives and institutional goals is assessed annually by the senior associate dean for education with onward reporting to the executive dean. Overall, KUSM resources for education remain adequate, despite the recent economic downturn and changes in state support. The new educational funding model provides more logical and equitable allocation of educational funding derived from all revenue streams and is designed to provide consistent, outcomes-responsive funding to facilitate program development and enhance quality through increased accountability for resources.

The calendar is currently constructed to schedule lecture-hall activities for no more than 15 hours per week and small group/laboratory for one to three afternoons Monday-Friday during phase I. The balance between didactic, small-group, and other activities is monitored by the phase oversight committees and phase I director and reported to Education Council, the senior associate dean for medical education, Wichita dean, and the associate deans for medical education, student affairs and academic affairs. The Phase I Curriculum Oversight Committee is leading changes at the module level to continue reducing lecture hours and to increase active and self-directed learning. Issues regarding workload for each module/clerkship are addressed through regular monitoring and systematic course reviews. Student members of review and phase committees provide active representation on this issue.

In phase II, the duty hours policy governs service responsibilities. This emphasizes student welfare, fatigue mitigation, patient safety, and professional responsibilities to monitor performance of self and peers. Students must not spend more than 80 hours a week, averaged over a four week period, in any combination of patient care, classroom, or educational programs. Clerkship directors and administrators monitor duty hours and other responsibilities of medical students continuously and make formal reviews at both the mid-clerkship and end-of-clerkship assessments. This regular monitoring aims to prevent problems and is supplemented by incident reports from students, residents, faculty members, and staff. The clinical "culture of safety" and changes in residency practices support the open monitoring of duty hours and mutual responsibility for reporting breaches of policy without recrimination or negative consequences. Attention to duty hours policies is regarded as a marker of professionalism. This is emphasized in individual student advising and class sessions on professionalism, an example being sessions included in the ICM 900/975 course. Students who exceed the recommended duty hours for any reason may report or be reported to the clerkship director, the associate dean for student affairs, or any other officer of the school on any campus. Independently of clerkship faculty, the associate deans for student affairs monitor compliance with duty hours through curricular surveys and feedback from individuals and student organizations. Incidents concerning duty hours are rare and student surveys indicate over 80% rates of satisfaction with workload with the lowest overall ranking in second year.

Educational equivalency across sites is inherent in phase I as module objectives, policies and evaluation practices are identical at all sites. All didactic sessions are delivered by interactive television (ITV) and then made available as podcasts on all three campuses. This has facilitated the creation and preservation of educational alignment across the geographically separated campuses. Small group sessions are facilitated by faculty members at each site following the same guidelines and using identical session instructions and resources. Orientation and debriefing meetings, as well as frequent communications, enable faculty members at all sites to work as a single team. Examinations are computer-based from a host server in Kansas City and testing facilities are similar on each campus. All grades are issued by the module director. All phase II clerkships have identical objectives, general implementation policies and evaluation methods, regardless of campus. Comparability is assured by the functional collaboration among directors, faculty, and staff in each discipline through personal and electronic communications (shared e-mail systems and teleconferencing) plus membership of phase oversight and other committees, and personal meetings during the several retreats and educators' meetings annually. Clerkship directors on the Kansas City and Wichita campuses are jointly accountable for the clerkship during all semester, annual, and in-depth systematic reviews. The routine reports generated by OME for committees and administrative officers include campus comparisons to assist in monitoring equivalency of outcomes.

The faculty governance system supports integration and inclusion within the administrative structure as faculty members from all campuses are represented on the phase committees and are eligible for election or appointment to Education Council. Appropriate inclusion of faculty members based on all three campuses was a major feature of the most recent bylaws revision. Administratively, phase I module directors are members of academic departments in Kansas City hence under the supervision of the executive dean through departmental chairs and the senior associate dean for education. Phase I issues in Wichita are managed through the Department of Medical Sciences, responsible to the Wichita dean. General oversight of the education program is the responsibility of the senior associate dean for medical education and Wichita dean who report directly to the executive dean. The principal academic officer at the Salina campus reports to the senior associate dean for medical education. The senior academic officers at Kansas City and Wichita are members of the Executive Committee and participate in the deliberations of the Education Council and the Faculty Council. Strong collegial communications are maintained among the Wichita dean, senior associate dean for education, Salina director and executive dean. The governance structure and robust communication among campuses ensure consistency in academic programs across campuses and a continuous leadership chain from/to the executive dean. Faculty input to this governance structure is primarily through module/clerkship directors who serve on the phase oversight committees and by faculty members elected or appointed to governance bodies. In the faculty survey, 67% endorsed adequate intercampus collaboration with 24% neutral.

A single set of standards for student promotion and graduation applies on all campuses. Unified standards are maintained by regular monitoring of student feedback and outcomes by the oversight committees and Education Council, and the in-depth systematic review of every required module/clerkship. The regular review of indicators of student performance across campuses includes internal measures, in particular grade distribution across campuses, performance on Clinical Skills Assessments, election to honor societies such as AOA, and referral for academic or professionalism problems, as well as external measures including USMLE scores for Step 1, Step 2 (CK and CS) and subject examinations, residency matching information, and feedback from residency program directors. Any discrepancies between campuses are analyzed and promptly addressed, usually at the phase committee level. Multi-year analysis reveals no pattern of persisting significant differences among campuses.

Evaluation of Program Effectiveness

Achievement of educational objectives is monitored through the system of phase curricular oversight committees, Education Council, and central monitoring by administrators (principally phase directors, associate and senior associate dean, and Wichita dean). The extensive data input includes student performance on examinations, standardized patient assessments, and clinical performance ratings (including application of knowledge, communications, and aspects of professionalism) by faculty. These data are supplemented by student feedback/evaluations of modules/clerkships, and by student advancement and graduation rates and by rates of referral for academic or other difficulties. Performance based on external or national standards is monitored including results from the USMLE step and subject examinations, the AAMC Graduation Questionnaire, and residency director survey. This wide range of data sources provides qualitative and quantitative information on the performance of graduates. Data are collated and prepared by OME for regular review by individual administrators and module/clerkship directors, curriculum oversight committees, and the Education Council. Additional analyses are prepared as needed for administrators, Faculty Council, Student Assembly or special task forces or groups appointed to address specific issues. Evidence shows that KUSM students achieve internal targets. They perform slightly below national means on USMLE Step 1 and this correlates with admission of students who have lower scores on testing but have attributes predicting medical careers in keeping with the social mission of the school. Both USMLE Step 1 results and internal data indicate lower-performing areas in basic sciences such as biochemistry, microbiology, and pathology. These are being addressed by changes in curricular content and establishment of “threads” to reinforce learning of key disciplines across

modules. Outcomes are being closely monitored to assess the need for further intervention. Performance on USMLE Step 2 is comparable to peer institutions. The residency director and PGY 1 preparedness surveys indicate that graduates are well-prepared overall for residency with strengths compared to peers in competencies related to professionalism and communications.

Information from and about students, graduates and programs is incorporated into quality improvement at several levels. Module/clerkship directors use information to make operational program adjustments such as scheduling changes, faculty or resident teaching assignments, refinement of teaching materials and/or strategies, and arrangements for faculty development. Organizationally, information is used by the phase curriculum oversight committees and Education Council to make larger strategic changes to the curriculum. For example, the most recent curriculum revision was greatly influenced by student concerns about the conjoined clerkships in ambulatory medicine/geriatrics and neurology/psychiatry. Even more recently, the decision to eliminate the Medicine Across the Lifespan module was only made after consideration of data trends over several years and analysis of the outcomes of multiple course adjustments to address specific issues. Information from and about students/graduates can also give rise to formal guidelines applicable to all or parts of the curriculum such as the requirements to increase the number of active learning activities in phase I. Multiple other adjustments have occurred within modules/clerkships, such as the timing of experiences and examinations, and balance of different types of experiences (e.g., lectures versus small group and active learning activities). A specific example of response to student feedback was in family medicine, where requests for more acute inpatient experience and time with residents resulted in an "on call" requirement being incorporated into the clerkship.

III. Medical Students

Admissions

The admission criteria and process are based on the mission to educate physicians for the state. The two longstanding pipeline programs aim to raise interest in health careers and enhance the credentials of applicants from rural areas and those from groups underrepresented in medicine (URM). The rising numbers of URM students and the percentage of graduates entering primary care (50%) and/or serving rural areas, validate contributions to the KUSM mission. Total applicant numbers have risen by 70% in five years with no decrease in academic credentials. The selection and admissions process is stringent, detailed, and congruent with best practices nationally. The process values applicants who have high probability of becoming physicians who serve vulnerable populations. The consideration of factors associated with professionalism and career intention in addition to academic achievements, results in acceptance of selected students with lower academic scores than peers but resources are offered to these students and they show no academic disadvantage by graduation. Applicants report high satisfaction with interactions with admissions staff, interviewers, and others. KUSM matriculates the highest percentage of accepted students in the country - 82% of those offered a place matriculate despite offers from other schools. In particular the matriculation rate of URM applicants has risen significantly. In the faculty survey 85% endorsed that matriculants have the intelligence, integrity, and emotional characteristics to become effective physicians.

The Academic and Professionalism Committee (APC) is charged by the faculty bylaws to “determine which applicants are offered acceptance to the school based on the recommendations of its admissions subcommittee.” Admission decisions are made by faculty following well-defined policies and procedures, including training of committee members and interviewers for the selection process. The APC is made up of 19 faculty members (15 elected and 4 appointed) plus 7 students elected in prescribed numbers from each campus and program year. The Admissions Subcommittee includes 10 faculty members (6 elected and 4 appointed) and 3 students. The executive dean or any administrator cannot directly admit students

to the program. The conflict of interest policy is well understood by all involved in the admissions process and is strictly enforced. All members of the APC and its Admissions Subcommittee review this policy at least annually, and must recuse themselves from review or discussion of any candidate where a real or potential conflict of interest exists. Of the 381 respondents to the faculty survey (December 2012) 74% "agree/strongly agree" that faculty are adequately involved in the admissions process (with 21% neutral).

The increases in faculty numbers (see below), along with more modest increases in numbers of residents and graduate students are more than adequate to support the 20% increase in entering students since 2008 (from 175 to 211) and the projected rise in total student numbers. Clinical resources for education have significantly expanded and diversified. The KU Hospital reports a 35% increase in patient volume since 2006-07 and similar increases are reported by major affiliates in Wichita. More modest growth is reported by Salina and other clinical affiliates. Changes such as the unified clinical enterprise and agreements with Children's Mercy Hospital and new affiliates are likely to further enhance clinical resources for education. Educational programs use a growing and diverse group of non-hospital sites. The status as the only medical school in the state and the long tradition of community-based programs provides KUSM with access to significant clinical resources. Nevertheless, the changing health care environment and the encroachment of other professional schools seeking teaching sites in Kansas could raise problems and resource availability is being monitored. Although KUSM currently has adequate physical capacity for all programs, expansion and reconfiguration is necessary to support changes in educational strategies, especially the transition to predominantly active learning and competency-based assessment. A comprehensive redevelopment plan has been approved for the Kansas City campus, beginning with the Health Education Building. Negotiations over financing this development are in progress. The Salina and Wichita campuses had significant recent physical and technological investments to support new programs and facilitate direct linkage among campuses. Overall, KUSM has more than sufficient resources to support the current and projected numbers of students, with the possible exception of storage and relaxation space for clinical students in KU Hospital. Temporary arrangements have alleviated this issue pending completion of the clinical integration discussions that include allocation of responsibility for such facilities in clinical areas.

As previously described (pages 7-8) the pipeline programs have contributed to dramatic growth in number of URM applicants and their success in achieving matriculation. Nevertheless, the number of URM students remains small: African-American matriculants increased from 8 in 2006 to 13 in 2012 and Hispanics increased from 5 to 11 students. While the percentage of African-American and Native American matriculants now corresponds to the percentage of these groups in the Kansas population, more needs to be done to attract these students to KUSM to keep pace with demographic changes and impact historical underrepresentation in the physician workforce. The current network of programs and activities is under continuous review to increase effectiveness. A sustained focus on targeted scholarships has enabled KUSM to be much more competitive for URM applicants who may be offered places at several medical schools. The percentage of rural students in the class is below that of the Kansas population but the state statistics are not corrected for the older age distribution in rural counties. Program success is shown by 72% of graduates from the scholars in primary care/rural health program since 1997 entering primary care careers and 71% practicing in rural or underserved areas. Extensive tracking systems are in place to monitor academic progress and career choices of pipeline participants. These data are essential to improving program performance and in developing rationale for new grants. Sustained funding for pipeline programs is always a concern, especially if federal funding is decreased. Programs are based on a combination of federal and local support plus identified KUSM funding. There is a tradition of transitioning to KUSM funding for these programs if federal funding decreases but this may not be sustainable due to pressure on KUSM funding. Nevertheless, the KUMC initiative to advance diversity as an institutional priority will create more broadly-based programs and services for all professional schools

and increase visibility and momentum. These developments will link to and build on the current efforts to attract and prepare URM and rural students with obvious benefits to KUSM.

The technical standards for all aspects of medical student education, including admission, retention and graduation, are available on websites and in various publications and communications. They are discussed with students and advisors at college visits, visits to KUSM campuses, and conferences. The admissions criteria and technical standards are reviewed annually by the APC and any necessary revisions or updates made in consultation with faculty council, student organizations and legal counsel.

Transfer or visiting students are only accepted on a space available basis after accommodation of KUSM students. Capacity is monitored through the student affairs offices on the Kansas City and Wichita campuses. Traditionally more KUSM students leave to participate in external electives than the number of visiting/transfer students thus no negative impact is sustained. The recent change to uniform electronic application for clinical rotations resulted in a surge of applicants for clinical rotations on the Kansas City campus. In 2012-2013, 22 Wichita students, 32 international students, and 113 students from LCME-accredited allopathic or AOA-accredited osteopathic medical schools completed clinical electives in Kansas City. Capacity is more than adequate but is monitored for specific areas of high demand that could stress resources. Visiting students are only accepted from other LCME accredited medicals schools, accredited osteopathic medical schools, or those few overseas medical schools with which KUSM has a formal arrangement for student exchanges. The system to validate credentials works well and visiting students have proved well-prepared to participate in KUSM programs. Transfer students are usually only accepted into the third year and must be approved through a formal process, including review by the Admissions Subcommittee.

Student Services

Prevention and early detection of academic difficulty begins with post-baccalaureate and pre-matriculation programs for students at risk. Following the mid-term test of the first module, the campus associate dean for student affairs meets with all under-performing students to identify concerns, problems, and barriers to success. Appropriate referrals are made to educational specialists, psychological services, or other support services. The Student Performance Committee reviews student performance on all campuses monthly. The associate deans may use information from these meetings when reporting to the Student Promotion and Special Programs Committee and/or Academic and Professionalism Committee (APC). The support system to facilitate student success includes the Not-Evaluated Track (NET) that enables students to remain in the educational environment at reduced tuition prior to repeating coursework. Participants must regularly engage in educational support work and, where appropriate, meet with a counselor. Students who satisfactorily complete the NET program are allowed to repeat the year. All students who experience an academic setback meet with the associate dean to address potential issues. Students who do not meet the threshold for the NET program are eligible to retake coursework during the summer term. Academic support programs are generally effective, including the NET programs serving students who have multiple failures. Students with single failures almost always successfully remediate and progress. Delaying until the summer term to repeat courses is not optimal and discussions are underway to develop timelier remediation. While the goal is a zero attrition rate, this is not realistic; however, the attrition rate for the school is relatively low. Less than 1% of students withdraw or are dismissed from KUSM. Student satisfaction with academic counseling in the LCME survey gave average rankings on 4-point scale of 3.76 (first year), 3.79 (second year), 3.63 (third year), and 3.71 (fourth year). The corresponding percentages reporting satisfied/very satisfied are 75.5% (19.4% reported not applicable), 92.9% (3% not applicable), 83.4% (9.8% not applicable), and 86.6% (8.5% not applicable).

KUSM students report similar satisfaction rates to national peers for services in career counseling, residency preparation, and assistance in Medical Student Performance Evaluation (MSPE) preparation on the GQ survey. These rates have been steadily improving in recent years. Satisfaction rankings are higher

across all four years on the internal LCME survey than on GQ, reflecting on-going improvements in the systems that benefit students earlier in their training. The MSPE preparation system appears effective. Students can review the final draft of the MSPE for accuracy but few students request changes. Letters are reviewed for accuracy by OSA/ASA staff and any inconsistencies are reviewed with the associate dean before the final letter is released. If a conflict of interest is identified, the student is given the opportunity to select an alternative principal letter writer.

In 2009-10, the Education Council established guidelines for all electives that focus on ensuring educational quality and supervision. These guidelines emphasize that institutional policies and procedures for student health/safety, patient safety, and ethical practice apply to electives regardless of site as much as to required courses. All KUSM electives and special programs must have departmental sponsors and must be approved by the appropriate phase oversight committee. Policies and procedures for international electives and special programs are established at the KUMC level for all professional schools through the Office of International Programs (OIP). Students must submit an externship application form at least four weeks before the anticipated start date of the external rotation. This form includes location, evaluators name and contact information. Student evaluation/feedback on extramural electives is tracked by OSA/ASA and made available to subsequent students. Detailed evaluation of away experiences based on feedback forms, surveys and narrative information (including student support services and safety as well as educational quality) is used to inform the information and approval processes for subsequent students. Less than 10% of students report disappointment in KUSM's assistance in the process of securing "away" rotations.

Extensive efforts are made to help students avoid excessive debt, to promote financial literacy, and manage financial responsibilities. The Student Financial Aid Office (SFA) develops a Cost of Living allowance based on surveys and the Consumer Price Index to inform students about covering expenses without incurring excessive debt. Over 20 presentations are made annually to student groups regarding debt avoidance and management in addition to detailed entrance and exit interviews for students about financial issues. At exit sessions, students are provided with detailed summaries of their loans. Arrangements are in place for non-Kansas City based students to receive individual financial assistance through frequent campus visits and secure video conferencing by staff. Students from Wichita and Salina also participate in presentations and group discussions by interactive connections with the Kansas City campus. In the LCME independent student analysis, only 2.4% of students across all campuses reported dissatisfaction with the financial administrative services at KUSM.

The Kansas Board of Regents establishes tuition and fees for the Kansas public universities. The annual rate of increase in tuition for medical students has ranged from 4.9-6.1% since 2006 and will be 5% for 2013-14. A university advisory group including KUSM representation is developing recommendations to improve the fee structure and other strategies to minimize financial burden on students. Kansas medical students previously had significantly lower tuition and fees than students at other public schools but this advantage has almost been eliminated. Pressures to further increase tuition and fees are increasing and are of particular concern for those students who experience any academic delay and/or do not secure residency placement immediately upon graduation. GQ data show 85-90% of KUSM graduates reporting some form of financial support during medical school and over $3 million is available in scholarships. The current KU capital campaign includes ambitious targets for scholarship enhancement. The Kansas Medical Student Loan Program (KMSLP) has been expanded for those intending to practice primary care in areas of need in Kansas. Despite the challenging economy over the last few years, institutional funding available for medical students rose nearly 12%, between 2008-09 and 2011-12. Policies related to financial issues, including refunds are clear and equitable.

Student wellness and comprehensive health services, including personal counseling, are provided by all campuses. Students requiring services while on off-campus rotations receive primary support from their home campus. The GQ, LCME independent student analysis, and routine internal quality monitoring

report high satisfaction with services for personal counseling (84.4% satisfied/very satisfied compared to 75.7% all schools on GQ). The LCME survey and routine monitoring show 99% satisfaction with personal counseling in Kansas City and 89% in Wichita. Most of this discrepancy is related to the off-campus location of the Wichita services. This was necessary to ensure counseling from qualified individuals who are not involved in teaching or academic assessment of students. A new contract is being developed to expand personal counseling and mental health services on the Wichita campus and to offer confidential remote access to counselors in Kansas City. Policies and practices are strictly enforced to ensure confidentiality of services and records and to maintain "firewalls" between health professionals serving students on all campuses and faculty members involved in teaching or assessing students.

Student Health Services in Kansas City are heavily utilized and provide a full array of primary care services, immunizations and serology testing. User surveys show 91.9% of students very likely/likely to recommend the services to a peer, 97% satisfied with services provided, and 92% satisfied with scheduling arrangements. Services for Wichita and Salina students are provided through contractual arrangements with community clinics and providers. Again students report high but lower rates of satisfaction with services than in Kansas City related to off-campus location. Several initiatives have been undertaken to improve access and convenience of student health services in Wichita and longitudinal monitoring shows improvement in satisfaction.

Student ratings (on a 4.0 scale) of the availability of health insurance vary from 3.37 for third year students to 3.72 for first year students, but up to half of survey respondents report "not applicable." Similar ratings for disability insurance ranged from 3.21 (fourth year) to 3.95 (first year) with up to 85% "not applicable." An increasing number of students may remain covered by family health insurance policies. Insurance is a rapidly changing area that is being closely monitored so programs can be adjusted to meet the unique needs of students and their families.

All students receive education about bodily fluid exposure, needle stick policies and other infectious and environmental hazards during orientation, at the time of matriculation, and again during the transition to the third year. Personal safety and potential hazards are also addressed during ICM 900/975, and through academic societies and student organizations. Students are required to annually complete on-line compliance training including a module "Environment, Health and Safety Office General Safety Tutorial". In the LCME independent student analysis (June 2012) over 80% of third and fourth year students on all campuses reported "satisfied" or "very satisfied" with education about prevention and exposure to infectious and environmental hazards. Average ratings (4-point scale) were 3.56 (first year), 3.39 (second year), 3.53 (third year) and 3.49 (fourth year).

The Learning Environment

KUSM has formal policies and standards for professional attributes and behaviors. These are widely disseminated and reinforced through activities such as the White Coat Ceremony, the transition to clinical training, events and awards related to the Honor Code, and above all by incorporating the development and assessment of professionalism into the curriculum and daily activities. Professionalism is required as a core graduation competency and four specific objectives are defined. These are integrated into all modules/courses/clerkships and progress is monitored through the standard instruments (principally the CPR form) as well as by selected projects, faculty observations, and clinical skills assessments, including standardized patients presenting specific challenges in professionalism issues. Academic societies, advising services, and ICM 900/975 provide longitudinal reinforcement of aspects of professionalism. The revision of the affiliation agreements with the school's clinical training partners established more explicit definitions of expectations regarding professionalism, its monitoring, and mechanisms to address concerns at clinical sites. The KUSM requirements for professional behavior of students are synergistic with the quality and patient safety initiatives of the KU Hospital and clinical affiliates. These initiatives increasingly reinforce many key aspects of professionalism especially in effective communications, inter-

professional civility, mutual responsibility, and strategies to prevent errors and strive for improvement in clinical outcomes. Significant changes in resident training have contributed to this cultural change. Annual surveys of the graduating class show consistent endorsement that KUSM "provided a supportive learning environment."

Several policies apply to the teacher/learner relationship most notably those relating to consenting relationships, diversity and inclusion, and requirements that individuals providing psychological or other health care to students not be involved in teaching or academic assessment. All faculty, students and staff on all campuses are required to complete annual training modules about harassment, including procedures for identifying and reporting incidents. Presentations regarding harassment and mistreatment are covered in depth during student orientation and periodically reinforced. The LCME student and faculty surveys show high levels of knowledge and satisfaction with policies. For both education about and adequacy of policies and procedures addressing student mistreatment, the highest satisfaction was in the senior class (83% for education about and 81% for adequacy of policies/procedures). In phase I, 30-38% of students reported "not applicable" in response to queries concerning the witnessing of or being subject to harassment, mistreatment or abuse. In annual surveys, the graduating classes consistently endorse good student and faculty morale and equal treatment of students regardless of gender or ethnicity (all greater than 4 on 5 point scale). Although surveys and additional internal monitoring indicate KUSM is close to achieving "zero tolerance" for any form of student mistreatment, the GQ contains positive responses from 1-2 graduates each year. Over the past four years, isolated reports have been made in 5 of the 15 areas covered by the GQ survey with no discernible pattern. It is anticipated that upcoming classes will report even lower rates due to continuing improvements. To improve the ability to detect and address any mistreatment of students, the network of people to whom concerns can be reported has been expanded and an anonymous reporting system developed. The Honor Code, professionalism and other policies incorporate duty to report observed as well as experienced mistreatment.

The LCME self-study validates that students are very familiar with the policies/standards for advancement, graduation, disciplinary action, appeal, and dismissal and that the process is fair. To improve module/clerkship director familiarity with these policies, they are sent annual reminders at the start of the academic year and whenever a policy is changed. These topics are also a standing agenda item for the initial Phase I and II Curriculum Oversight Committee meetings each year and for the annual Education Retreat and joint Module/Clerkship Directors' Retreat. The disciplinary and dismissal processes incorporate meetings with the campus associate dean of student affairs to clarify any extenuating circumstances and to develop and implement an individualized plan to resolve the issues before final action is taken. If the Academic Committee votes for dismissal of a student, he/she has an opportunity to appeal to the executive dean.

Student records are stored securely and access is restricted to a few identified personnel. Students may request to review records with the campus dean for student affairs. The student affairs dean has discretion to determine if action is indicated in the case of a student challenge to the information in his/her record. If the student is not satisfied, the concern is referred to the Academic and Professionalism Committee for further review and action. The policy for students wishing to challenge a grade or evaluation is well publicized and available on websites. The LCME independent student analysis indicates students are well informed and satisfied with this policy and related procedures.

In the 2012 AAMC GQ, students report general satisfaction with study and relaxation space. Of the 80 respondents, 85% were satisfied/very satisfied with study space, compared to 78.4% in all schools. Regarding relaxation space, 71.8% of KUSM students were satisfied/very satisfied with the adequacy of facilities compared to 67.9% of students at all schools. Annual internal surveys and the LCME independent student analysis reveal concerns for phase II students on the Kansas City campus, particularly in storage and call room availability. Recent negotiations with KU Hospital as a part of the clinical integration process have improved availability of storage for several clerkships and provided call

rooms for surgery and obstetrics rotations. An ad-hoc joint committee with representation from KU Hospital and the school is developing a more comprehensive approach to the issues of on-call accommodation and storage for both the resident and medical student education programs. This committee has also made significant progress in securing meaningful use (progress notes, order entry and drafting of discharge summaries by students) of the electronic medical record system for medical students commencing at the earliest stages of their training. Study space is adequate and will expand when the library transitions to continuous operation in July 2013. Facilities on the Wichita and Salina campuses are new/renovated and more than adequate for the student numbers.

IV. Faculty

The KUSM faculty includes over 600 clinical and 150 basic science full time members, 150 part-timers, and over 2,000 volunteers. Since 2006, the basic science faculty has grown by about 11% and the full time clinical faculty by 83%. The increases in clinical part-time and volunteer faculty over the same period have been 10% and 4%, respectively. The faculty is more than adequate in size and qualifications to support the educational mission despite the rapid growth in clinical and research activities. In the December 2012 faculty survey 68% of 416 respondents agree/strongly agree the faculty size is adequate for the mission of the school (19% neutral) and 79% (13% neutral) endorse the mix of faculty expertise. In the independent student analysis survey (June 2012), over 95% of each class reported being satisfied or very satisfied with availability and accessibility of faculty. Challenges could develop as the school migrates further from use of didactic, large group lectures to more faculty-intensive educational strategies based on small groups and coaching of active learning activities. Increased demand for preceptors in community-based clinical clerkships and need for additional faculty to provide specific subspecialty experiences is anticipated as the expansions on the Wichita and Salina campuses increase the numbers of phase II students on those campuses. All educational needs are currently met, and KUSM will continue to monitor needs and faculty availability closely in order to respond promptly to any concerns as they are identified.

The processes of appointment to the faculty, continued professional development, and formal annual assessment are used to ensure maintenance of qualifications and on-going development of expertise. Each faculty member's time/effort is negotiated individually within his/her department annually. Module/ clerkship directors currently report a range of 20-50% dedicated educational time influenced by the duration and nature of the module/clerkship, use of associate directors, and personal/departmental priorities. This will be standardized and more explicitly linked to outcomes as the educational budget model is fully implemented. Individual faculty members vary in perception of the adequacy of time allocated for education. Overall, it is perceived to be adequate but not generous and faculty members are realistic about the many other demands of their academic roles.

Each faculty member receives feedback from students on teaching. In the faculty survey, 80% agree/strongly agree on receiving feedback from learners (11% neutral). Summative feedback on teaching is also part of annual assessment. Departments provide coaching and peer feedback on teaching. These services are generally best developed in some of the basic science departments but all module/clerkship directors are knowledgeable about and invested in the teaching skills of faculty members. KUSM has a long tradition of faculty development. A wide variety of opportunities is available at the departmental and institutional level to improve faculty teaching and assessment skills. KUSM attempts to achieve the optimal balance of formats (workshops/seminars, web-based, external programming) provided by departments, campus, school or other agencies to provide flexible, well-targeted programs that are accessible, effective, and make optimal use of faculty time. Sessions include one hour interactive presentations, small group training sessions, coaching by outside experts, and webinars. Participation at individual sessions ranges from 10 to 85 faculty members. Several previous federal training (HRSA)

grants have promoted academic development of primary care junior faculty and community preceptors in Kansas City and Wichita. The current HRSA faculty development grant serves the Wichita/Salina community-based residency programs. Salina holds monthly faculty development sessions for key faculty members plus an evening general faculty development session once each semester. KUSM also leverages faculty development programs created by departments and supports efforts to expand successful programs to school wide opportunities. Faculty members regularly participate in web-based programs from national organizations and other KUMC schools. The Academy of Medical Educators will provide significant new resources in educational skill development primarily through enhanced mentoring of junior faculty by senior educators. Faculty development for Wichita and Salina is complicated by large numbers of dispersed part-time or volunteer faculty. In addition to seminars, Wichita and Salina use national programs, including fellowships in medical education, to "train the trainer" so faculty members can provide programs in their own departments. "Academic detailing" takes faculty development to the preceptors who teach the family medicine and geriatrics clerkships. In the faculty survey, 70% endorsed the availability of appropriate faculty development activities and 73% reported participation in these programs.

Multiple programs encourage and support scholarship and research training including project development, funding procurement, mentoring, core facilities, statistical support, technical writing and publication assistance, and pilot and bridging funding. These programs originate and are supervised from the Kansas City and Wichita campuses by academic departments and centers/institutes, the Office of Professional Development and Faculty Affairs (PDFA), Research Institute, Office of Research and others. Mentoring arrangements provide a support framework for junior faculty but the services are available to all faculty members on all campuses. The Department of Internal Medicine's successful Office of Scholarly, Academic, and Research Mentoring (OSARM) is being developed as a model for other clinical departments. In Wichita, the availability of mentors for specific research needs is addressed through the Office of Research and may include cross-campus mentoring. Faculty satisfaction with services to support research training and development is modest (57% in the 2012 survey). The major concern is providing ongoing services for continued development of recruits from the recent expansions in research activity. A focused concern in providing adequate bridging funding has recently been addressed. Follow up on survey results indicates a concern that the efforts to secure the NCI designation and CTSA may have strained capacity in other areas. Faculty strongly endorse that research is appropriately recognized by KUSM (83% in survey) but only 64% perceive adequate time for research/scholarship activities. Scholarly/research productivity continues to increase but may plateau over the next few years due to financial and other uncertainties. Nevertheless, KUSM has cautious confidence in the research/scholarship mission based on the momentum, recruitments and infrastructure development of recent years. Research and scholarly activity occur in all departments that have full time faculty members. Both leaders and faculty members realistically appreciate the challenges of balancing time/effort across academic responsibilities.

Personnel Policies

KUSM has well-established policies/procedures to make, renew, change, or terminate appointments, and to award academic promotion and tenure. These policies/procedures, including those for appeals, are in accordance with university and nationally recognized standards (e.g., American Association of University Professors - AAUP) and are stringently followed. Faculty affairs functions are managed by an experienced staff led by associate deans in Kansas City and Wichita. These individuals have strong working relationships with one another and with institutional and department/unit leaders. Faculty affairs functions have been stressed in recent years by the rapid growth in faculty numbers compounded by the increasing dispersal of faculty members, expansion of non-tenure track appointments, and complexity of affiliation agreements. The number of applications for academic promotion has risen dramatically in recent years and is currently about 80/year.

The criteria for promotion are reviewed annually. The associate deans and staff provide information and support for faculty through web-based and other communications, public and departmental/group meetings, and personal consultations. Over 76% of faculty survey respondents agree/strongly agree that policies, expectations and requirements for promotion and career advancement are clearly communicated and understood (13% neutral). In the same survey 66% reported that educational contributions are appropriately recognized in academic promotion (17% neutral).

Faculty members are required to complete a conflict of interest (COI) disclosure form at least annually. Any real or potential conflict in the discharge of faculty duties is referred to the Conflict of Interest Committee. Policies and procedures have been updated to comply with new NIH regulations and are adequate and effective in managing conflicts related to the performance of research activities. Faculty and administrators are well-informed about COI issues relating to research and interactions with students. The current updating of the faculty handbook provides an opportunity to establish more robust policies, procedures and guidelines related to other (non-research related) academic responsibilities. In 2012, KUMC and KU-Lawrence implemented a new COI reporting system that ensures monitoring disclosure reports for faculty members with dual appointments. Many senior faculty members are also required to complete state COI disclosures due to their administrative responsibilities.

All faculty members with at least 0.5 FTE participate in the formal system of comprehensive annual review. This provides the department chairs and executive dean/dean of the Wichita campus with the opportunity to evaluate faculty performance against mutually agreed objectives and to establish future objectives and targets for faculty performance in teaching, research, and service. Additional feedback about academic performance and potential promotion may be arranged at the discretion of the department chair/unit director or on request from the faculty member. The effectiveness of the annual review process depends on the investment of each faculty member in self-assessment and setting of ongoing objectives, plus the diligence of the chair in completing and following up on each assessment. Over 76% of faculty members endorse that the process is constructive and supports professional success. Although the system is satisfactory, the associate deans aim to improve comparability across departments to contribute to even greater effectiveness of the process.

Tenure-track faculty members also have in-depth mid-cycle review and the required assessment for promotion at the end of the probationary period. Tenured faculty members participate in the system of annual review. In December 2012, the Board of Regents took action to require a system of formal post-tenure review at all institutions. A group representing all KUMC schools is currently developing a proposal to meet this mandate.

Overall, 79% of faculty members report satisfaction with their careers and 74% report optimism about their professional futures at KUSM. In annual surveys of the graduating classes of 2012 and 2013, students from both the Kansas City and Wichita campuses perceive faculty morale as good (4.16-4.58 on a 5-point scale).

Governance

The governance system is based on the tradition/culture of inclusivity and partnership between faculty and administration. Extensive arrangements ensure inclusion of faculty from all campuses. The governance framework facilitates input and feedback horizontally and vertically throughout the system. Department chairs and leaders of governance units are informed about issues through regular reports to representative committees and scheduled meetings with the executive dean and senior administrators. The effectiveness of the system depends on the leadership/effort of individuals plus participation by the many constituencies in the faculty. Only 59% of faculty members are satisfied with faculty participation in governance and policy-making (with 22% neutral) and 57% perceive that timely and efficient decisions are made with appropriate faculty input. The major challenge is the functioning of the Faculty Council

that has become too large to fulfill its purpose. (The representative membership from each department is based on faculty size and thus has substantially increased. This system has also raised concerns about equitable representation of all departments and of those faculty members who are based in centers and institutes). Meetings of the council are often poorly attended and reporting back to constituencies can be tenuous. This contrasts with the very high participation and productivity of major governance committees, including Education Council and its curricular oversight committees. Another concern is ensuring appropriate numbers of qualified candidates for faculty governance elections. KUSM needs to adapt the central faculty representation system to the changing roles of departments and composition of the faculty. Leaders, especially the associate deans for faculty affairs, are well informed of national trends in faculty governance and the process has begun to prepare proposals to improve systems for organizational decision making despite the many internal and external challenges inherent in a large and complex organization. The EVC/executive dean is very supportive of initiatives to revitalize the shared governance system but this process cannot fully begin until a new executive dean is appointed.

A complex, multi-faceted strategy is used to communicate within KUSM. The institution has a good record of using the most appropriate strategy for the need (meetings, focus groups, electronic communications, written documents, web-based media etc.). Faculty members report being well informed about important issues (72% agree/strongly agree and 16% neutral). Nevertheless, some faculty members report not being reached by the communications system. In particular, e-mails may not be read and an increasingly "millennial" and dispersed faculty may not regularly use the predominant current communications vehicles. KUSM has good communications resources and is addressing the challenges of reaching and involving all fa;culty members. The new "on-boarding" system will assist incoming faculty members in becoming more knowledgeable about and involved in faculty issues with a positive subsequent "cohort" effect on the entire organization.

V. Educational Resources

Finances

Since the last accreditation in FY06, total revenues have grown by 79% from $328.9M to $588.6M in FY12. KUSM has historically enjoyed strong state support, based on the need to educate health professionals for the state. This support peaked at $97.1M in FY08 but has reduced annually since. The FY12 state support is $83.3M. The reduction in state support has been more than compensated for by the 86% growth in clinical revenues ($100.3M-$186.8M), 45% growth in grants and contracts ($65.8M-$95.7M) and 56% growth in tuition and fees ($16M-$25M). Despite the economic downturn, endowment support has risen 29% since the last accreditation from $147.1M to $189.9M in FY12. Much of this has been due to the initiative to achieve National Cancer Institute designation. A second major boost in endowment funding (projected at $300M) is anticipated as a result of the university's capital campaign.

KUSM has achieved significant growth during a period of financial instability and downturn. Although uncertainties persist in several core funding sources, KUSM is anticipating and preparing to meet ongoing financial challenges and should be financially able to sustain a high level of operation over the foreseeable future. Research funding may be impacted if proposed reductions in NIH and other national support are enacted. Philanthropy and private foundations may provide limited compensation for any reductions in federal funding. The rapid growth of the clinical enterprise is projected to plateau but new collaborations, especially with Children's Mercy Hospital, and the potential efficiencies of new alliances involving the KU hospital, practice plan, and medical center suggest that clinical income will continue to grow.

The associate dean for finance is responsible for developing the KUSM budget and works with the executive dean to ensure that funding is logically allocated to support institutional priorities. No departments are currently in financial difficulty and plans are in place for contingency support of departments if they encounter temporary economic difficulties. A nationally recognized consulting firm has been engaged to assist in developing a more transparent and mission-based funds flow model to ensure that the financial needs of KUSM are met and missions efficiently served. For education, this model (initiated 2013) will permit more secure and accountable funding based on effort and outcomes. The current KUSM educational budget is around $45M.

Faculty members are aware of the need to generate revenues through clinical and/or research productivity but participation in education has not been impacted. Conversely the expansions of faculty, clinical sites, and research opportunities (such as the Cancer and CTSA centers) have had a positive effect on education. The annual faculty review is the principal mechanism determining the allocation of time for individual faculty members. The growing trend towards a cadre of faculty members with specific responsibilities for education is exemplified by the educational budget model and the Academy of Medical Educators. The matrices of the new education budget plan allow KUSM to better allocate funding and require accountability in education. The academic promotion system has a well-established clinician-educator track and recently added an educator track for non-clinicians. In the faculty survey, 81% endorsed adequate resources for education overall, and 73% reported adequate personal resources and time for teaching.

Both KU practice plan and KU Hospital have achieved a dominant position in the Kansas City area health care market. The US News & World Report ranks KU Hospital among the best in the country in ten specialties. Several affiliates are also nationally recognized; for example Healthgrades ranked Via Christi in Wichita among the top five percent nationally in five services. Both KU Hospital and the teaching affiliates have substantially growing volume and expanding catchment areas for regional referrals. The clinical growth in Kansas City is based on collaborations and partnerships with multiple community and other stakeholders. The previous and current executive deans have been effective leaders in this process. These clinical collaborations were central to major successes such as establishing the Clinical and Translational Research Unit and award of National Cancer Institute designation. While the Clinical Translational Research Program and the NCI designation efforts were based in and directed from Kansas City, components of these programs extend to all campuses of the university and provide enhancements for education and research in Wichita and Salina and their feeder communities. In 2012, major advances were made in developing an integrated healthcare system involving KUMC, the University of Kansas Physicians (practice plan), and KU Hospital. This will guarantee a robust clinical resource and infrastructure for educational programs. The proposed structure of this healthcare system recognizes the critical role of the healthcare system in meeting the missions of KUSM and seeks to enhance synergy between service, research, and education. The EVC/executive dean, senior associate dean for clinical affairs, and the chancellor have leadership roles in this organization.

Recent capital expenditures focused on developing the Salina campus and expanding facilities in Wichita to accommodate phase I students. The top priority now is the first phase of the Kansas City campus master development plan that will begin once the funding plan based on a combination of KU, state and philanthropic support plus bonding authority is confirmed. Ongoing upgrading and repurposing of existing facilities will accommodate planned transitions to more active learning strategies over the next 1-3 years. Financial plans have been prepared to support both new building and redevelopment of existing facilities on all three campuses. The educational facilities master plan is under the control of the EVC and is reviewed annually. The absence of debt and the willingness of the Endowment Association, an independent non-profit corporation, to contribute to development of new facilities greatly facilitate financing of capital projects.

General Facilities

The educational infrastructure including lecture halls, classrooms, conference rooms, and study areas varies but all sites (including private preceptor offices) must meet course-specific criteria including those for computers and Internet access. Over 80% of the first year, third year, and fourth year classes on the Kansas City campus reported being satisfied/very satisfied with large classroom facilities. For small group facilities, over 80% of all classes were satisfied/very satisfied. On the independent student analysis survey, first through fourth year students ranked the adequacy of clinical skills facilities very highly (3.5-3.8 on 4.0 scale), followed by small group teaching spaces (3.2-3.5) and large group facilities (2.7-3.4). Increased study facilities have been made available by reallocation of space in the Student Center and Dykes Library plus extending library access hours. Both the Salina and Wichita campuses have recently-upgraded facilities and have capacity to adapt to curricular changes. In the faculty survey (December 2012) 73.9% of 417 respondents rated teaching facilities as adequate with 15% neutral.

While educational facilities are currently adequate for quality medical education and have been extensively upgraded to incorporate electronic and technical advancements, educational needs are evolving away from traditional facilities, especially large lecture halls, to require flexible, technologically "smart" facilities that can support distance ("anytime, anywhere") learning, teamwork, and competency-based assessment. In Kansas City, both the medical center and hospital have ambitious master facilities plans to provide infrastructure support for state of the art education and to maintain leadership in the clinical service mission for the foreseeable future. Research facilities have expanded and upgraded significantly since the previous accreditation including the 2007 opening of a 205,000 sq. ft. ($57.2M) biomedical research facility and an 80,000 sq. ft. ($11M) clinical research building, plus a $26.4M commitment to renovate 170,000 sq. ft. of research space.

The Kansas City campus has comprehensive measures to promote the security of all staff, students, and visitors and protect property. The KU Police Department provides law enforcement services and multiple security measures are in place. Elaborate disaster preparedness plans address the most likely scenarios including weather emergencies and violence on campus. In Salina, the medical education building is served by the Salina Regional Medical Center for safety and security issues. The Wichita campus has full time security officers and electronic protection systems. Security is addressed in affiliation agreements to ensure safety of off-campus students. Students, faculty, residents and staff are required to complete on-line safety training annually and drills are held on each campus. In the faculty and independent student analysis surveys respectively, 91% of faculty and 79-93% of first through fourth year students report favorably on personal safety.

Clinical Teaching Facilities

Both inpatient and ambulatory patient resources for medical student education have increased significantly since the last review due to significant expansion of the KU Hospital and major Wichita clinical affiliates, and the growth of the core professional practice plans, plus addition of new affiliated clinical sites. KU hospital has more than doubled inpatient volume over the past 12 years and the KU Physicians Practice Plan has increased clinical FTE providers by 86% over 8 years. Current negotiations with Children's Mercy Health System will further expand resources in pediatrics. In the faculty survey 89% agree/strongly agree that the number and variety of patients are appropriate, and 86% endorse the clinical facilities and equipment: an additional 7% were neutral. In the independent student analysis survey, 95% of third year and 98% of fourth year students were satisfied or very satisfied with patient availability.

As all major teaching sites are regional referral centers, clinical facilities and equipment are state of the art. The smaller community resources used to provide rural experiences must meet criteria set by each clerkship for student supervision and support services, technical and communications capacity, and

patient volume/diversity (monitored by logs). Medical students on all campuses spend a significant portion of required clerkship experiences with residents who provide teaching and clinical supervision. Students in Salina interact with residents from the Smoky Hill Family Medicine Residency on most inpatient rotations as well as the primary care rotations. Salina-based students may also interact with residents during clinical electives in Kansas City.

The most recently executed affiliation agreements between KUSM and all clinical partners were drafted to align with the expectations set forth in the LCME accreditation standards. Within the last year, revisions have been made to reflect proposed national guidelines and standards. Whenever possible, the new template for educational affiliation was executed, even when prior agreements remained in force. In those instances where affiliates declined for their own reasons to replace an existing agreement, amendments to the existing agreements were negotiated to ensure that the necessary language was included. The school also took steps to educate its clerkship directors about the new agreements and addenda and stepped up its oversight of the status of the affiliations to ensure that students would not be assigned to a required clinical experience at a facility that did not have an affiliation agreement in place. All agreements meet the general standards established by the most recent national template provided for affiliation with clinical facilities in the Veteran's Administration system and virtually all include language that expands upon the VA standard to ensure that LCME expectations regarding relationships between the school and its affiliates are met. In most cases, specific language outlining learner/educator expectations and responsibilities was included.

In addition to the routine communications between clerkship directors and the site directors and supervising faculty and visits to the affiliated facilities by representatives of the school, monitoring includes student feedback concerning supervision, clinical and student support facilities. The strong collaborations between KUSM leaders and those of clinical affiliates are based on longstanding relationships and shared commitment to the state. At the staff level, active collaboration between KUSM and clinical affiliates is integral to daily activities. All medical staff members of KU Hospital are faculty members of KUSM and the hospital's department heads are, with few exceptions, the chairs of the appropriate academic department. Clinicians at affiliated institutions may hold full-time, part-time or volunteer appointments, thus ensuring a relationship with a KUSM clinical department. The close collaboration promotes educational quality, enhances the development of professionalism in students, and facilitates addressing practical issues such as the introduction of electronic records at multiple institutions that participate in teaching.

Information Resources and Library Services

Library print holdings have continued to grow slowly despite the shift to online resources. In collaboration with KUH, the medical center has added the Springer e-book collection and other resources such as AccessMedicine and MD Consult provide point of care resources accessible by students, faculty and residents from anywhere, subject to certain limits imposed by publishers. While the archives of hardcopy journal collections have been reduced to allow repurposing of library space for higher demand resources, such as testing facilities and small group rooms, collaboration with the state library has resulted in a net gain in available e-journals. Interlibrary loan capacity extends library services and provides 24-48 hour average turnaround. All electronic resources licensed by the library are available from any remote location with the exception that Up to Date in Kansas City is only available on campus. In the 2012 academic year, Kansas City library hours were expanded to 116 hours/week and as of July 2013 the library moved to 24/7 opening (as in Wichita). Student ratings of accessibility, quality, and adequacy of library services are high, including Salina and Wichita campuses with around 90% satisfied or very satisfied on the independent student analysis survey (June 2012). Study spaces on the Kansas City campus are currently adequate but are being expanded to meet the needs of the changing curriculum.

Comprehensive and sophisticated computing and technological services are available on all campuses and very highly ranked for adequacy and accessibility by students.

Biomedical librarians and information technology professionals participate in the development and implementation of educational programs and are frequently invited to participate in discussions of phase oversight and other committees. Specific curricular contributions include orientation to new technologies and a review of current items at the beginning of first and second year; participation in EBM teaching in the Foundations of Medicine module; support for accessing and evaluating literature during project work throughout the curriculum; and advanced EBM training in the senior Health of the Public course. Library professionals have created subject guides in specific areas to support learning such as Mobile Applications Guide, and Medical Images and Atlases. Library professionals assisted faculty to produce and distribute study guide files in OneNote. Technology professionals also participate in pre-module faculty meetings to assist in integration of items such as audience response systems, improved audio video enhancements, and to coach faculty on optimal inclusion of multi-point audiences.

Information technology and instructional technology are well integrated into medical student education. The school recommends that students bring a computer of their choosing that meets minimum specifications and standards. Ubiquitous wireless connectivity is provided throughout the campuses and clinical affiliates. Specific technology applications include: interactive television, curriculum management (JayDocs), Learning Space, lecture capture, Aperio virtual microscopy, and computer-based testing. Electronic resources are available on or off campus, including library databases and materials, JayDocs content, recorded lectures, and file storage space. Large classrooms have been renovated to add interactive television capabilities to all three campuses. Regular feedback and surveys monitor student use, and satisfaction for individual services as well as overall opinions concerning technology availability and support. Surveys include open-ended comments for specific issues and concerns. These surveys show high levels of satisfaction and are invaluable in providing feedback to improve current services and anticipate changing student needs. Results are shared with the executive dean, OME, curriculum committees, and Information Resources. The Teaching and Learning Technologies Planning Group (part of Information Resources) coordinates an ongoing technology planning process designed to support the integration of technology into education. The group meets twice each semester. Additionally, key IT leaders and staff members meet with the associate dean for education and OME staff monthly to address issues related to technology in educational programs. Programs continue to evolve but no major technology problems are currently anticipated.

Principal Areas of Strength

Clinical educational resources: Education programs take advantage of a large, varied, and high-quality clinical network, including two community campuses, multiple well-established affiliates, and extensive community-based resources throughout the state. In Kansas City, the success of KU Hospital; development of a new collaborative clinical enterprise involving the faculty practice plans, KU Hospital, and KUMC; and relationship with Children's Mercy Hospital ensure continuing generous clinical resources for education.

Distributed education: KUSM takes advantage of being the only medical school in the state and has more than 60 years' experience in community-based education, using an extensive network of facilities, in particular the Wichita and Salina campuses. The Wichita campus has provided high-quality clinical training for over 40 years and has successfully expanded to provide the entire curriculum. The innovative Salina campus is well-established and is prepared to add the clinical phase of the curriculum for its first full cohort of students. The extensive network of community sites has a long tradition of providing education in primary care, rural medicine, and other topics. Increasingly, selected community sites that

have appropriate resources are participating in core clerkships, facilitated by enhanced communications and IT services. This model of community-based education integrates with other programs such as those serving potential rural and/or minority applicants and community-based faculty members, to support the mission to provide physicians for the state.

Faculty resources: The size and expertise of the faculty was identified as a strength in the previous accreditation and has substantially increased since. Expertise is available across the spectrum of basic, applied and clinical sciences and faculty members have demonstrated skills and commitment to education. Volunteer faculty members provide significant contributions as educators and advocates for KUSM. Faculty resources are enhanced by residency programs and an expanding pool of graduate students.

Educational management and technical support systems: The educational support infrastructure provides data analysis, inter-campus collaboration, and technical services that enable faculty and administrators to monitor programs and promote quality improvement. The Office of Medical Education (OME) provides logistical and data support to curriculum committees and administrators and is highly responsive to program needs. Educators work closely with OME and other key units, especially technology support and library services. These units provide expertise and resources supporting innovations such as the transition to active learning and education at "point of care" and "anytime, anywhere." Effective collaboration among educators based at different campuses is made possible by extensive communications services. The updated educational budget plan will enhance educational management as it is based on dependable matrices and establishes education as the mission priority in KUSM funding. OME was identified as a strength in the previous accreditation review and has grown and increased in sophistication since.

Medical student diversity: KUSM has dramatically increased applications from key minority groups and significantly increased the success rate for these groups in achieving matriculation. In particular, KUSM competes successfully for qualified minority applicants who have multiple acceptances. The longstanding pipeline and other programs develop regional applicants from targeted groups and integrate with programs to enhance the academic success and career development of these students. Programs are expected to further develop as part of a system-wide multidisciplinary collaborative initiative to enhance diversity in health professions.

Research infrastructure: The momentum in research activity and expansion of infrastructure and core support services are major developments since the last review. In addition to the NCI Designated Cancer Center and the CTSA, centers have been established in Alzheimer's Disease, Diabetes, Reproductive Medicine and other areas. The school has used the significant expansion in research infrastructure to enhance opportunities for faculty and to expand graduate programs. The research expansion also enables students to participate in a wide variety of research activities and enriches curricular content. This is likely to continue as the Cancer Center, CTSA and other research enterprises grow.

Principal Challenges

Leadership transition: Although recent administrative changes have been well handled and faculty members are optimistic about the future, KUSM must successfully complete the separation of the EVC/executive dean roles in addition to any administrative reorganization that an incoming executive dean considers necessary. This process will be supported by the experienced leadership team at the senior/associate dean and departmental chair levels as well as by transition teams in key areas.

Faculty governance: The faculty has almost doubled in size since the last accreditation and is increasingly dispersed. The current system of faculty governance is functional but inefficient. Discussions are underway to develop a system that optimizes modern communications and organizational systems to

conduct the business of the faculty more effectively and efficiently while continuing the tradition of being inclusive and responsive to faculty needs. The major need is to assist the operational committees and councils to streamline operations and to reform the central Faculty Council.

Active learning: The transition to student-centered active learning is underway and is a core assumption of the education budget model. Nevertheless, this process requires further changes in facilities, resources, teaching/learning techniques, and assessment methods to achieve the goal of active learning becoming the predominant learning strategy. This must include preparation of students to ensure they understand and fully benefit from these strategies.

Educational facilities: Facilities for education are adequate for current programs and number of students. In order to transition to active learning strategies, different infrastructure is necessary. Facilities have been extensively upgraded (especially to support electronic enhancement of education and distance learning) but further adaptation of buildings on the Kansas City campus will not meet the long-term needs arising from changes in teaching and learner assessment. Current facilities also limit any potential for increase in class size on the Kansas City campus. Plans have been developed for a new education building on the Kansas City campus to support innovative programs, including interprofessional education, distance learning, simulation, active learning projects, and new assessment methods. This building will also enhance facilities for student relaxation, private study, and storage of personal items.

Student financial burden: Tuition and fees have risen steadily and are now comparable to other public schools. A 5% rise is anticipated for 2013-14. Despite aggressive programs to minimize and manage student debt, and availability of significant scholarship and other financial programs, an increase in student debt appears inevitable. Work will continue to secure additional endowment support of scholarships, to expand the Kansas Medical Student Loan program, reduce costs, and to minimize any increases in tuition and student debt.