STANDARD 8: CURRICULAR MANAGEMENT, EVALUATION, AND ENHANCEMENT

The faculty of a medical school engage in curricular revision and program evaluation activities to ensure that medical education program quality is maintained and enhanced and that medical students achieve all medical education program objectives and participate in required clinical experiences.

SUPPORTING DATA

Table 8.0-1 | Overall Satisfaction

Provide school and national benchmark data from the AAMC Graduation Questionnaire (GQ) on the percentage of respondents who *agree/strongly agree* (aggregated) with the statement:
"*Overall, I am satisfied with the quality of my medical education."*

GQ 2013		GQ 2014		GQ 2015		GQ 2016		GQ 2017		GQ 2018	
School %	National %	School %	National %	School %	National %	School %	National %	School %	National %	School %	National %
86.7	89.2	88.9	87.5	96.2	90.9	85.7	90.1	95.6	89.9	91.5	89.3

SUPPORTING DOCUMENTATION

1. A summary of student feedback for each required course and clerkship for the past two academic years. Include the overall response rate for the year for each course/clerkship.

   Appendix 8.0-1 Student Feedback for Courses and Clerkships

2. An organizational chart for the management of the curriculum that includes the curriculum committee and its subcommittees, other relevant committees, the chief academic officer, and the individuals or groups with involvement in curriculum design, implementation, and evaluation.

   Appendix 8.0-2 Curriculum Management Organizational Chart

8.1 CURRICULAR MANAGEMENT

A medical school has in place an institutional body (e.g., a faculty committee) that oversees the medical education program as a whole and has responsibility for the overall design, management, integration, evaluation, and enhancement of a coherent and coordinated medical curriculum.

NARRATIVE RESPONSE

a. Provide the name of the faculty committee with primary responsibility for the curriculum. Describe the source of its authority (e.g., medical school faculty bylaws).

The faculty committee charged with primary responsibility for the curriculum is the **Curriculum Committee** (CC). The JCESOM Bylaws state: "The Curriculum Committee is responsible for the overall design, management, and evaluation of the medical school curriculum. It is expected that this will be a coherent and coordinated curriculum that fulfills the goals and objectives of the School of Medicine and will be in full compliance with LCME standards. The Curriculum Committee is responsible for a wide range of issues, including but not limited to the following.

1. Defining and adopting program objectives: the CC defines the goals and objectives of the MD-program at the JCESOM. These outcomes are reviewed every three years at the CC retreat and modified, if necessary.
2. The CC is responsible for sequencing of the various segments of the curriculum, both within and across the academic periods of study.
3. The CC also advises each course and clerkship on appropriate pedagogies and assessments.
4. Ongoing evaluation of course and program effectiveness towards meeting the overall institutional outcomes.
   1. Ongoing evaluation of the content and workload in each discipline to identify omissions and unplanned redundancies.
   2. Make such changes to the curriculum that are prudent and appropriate to fulfill the responsibilities of the Curriculum Committee.
5. Maintain careful records of the proceedings, decisions, and actions of the committee.

b. Provide the number of curriculum committee members and describe any specific categories of membership (e.g., basic science or clinical faculty members, course directors, students). Is the chair of the committee a member of the medical school administration (serving ex officio) or a faculty member with no administrative title? Note if there are terms for committee members.

As per the JCESOM Bylaws:

The CC shall consist of the following members, all with full voting rights:

Faculty:
Department of Biomedical Sciences:
5 members will be elected by the faculty members of the department. The department chair shall be responsible for determining how that election will be conducted. There should be a mixture of faculty who teach across the spectrum of basic science subspecialties.

Clinical Faculty:

There will be a rotating schedule of the clinical departments responsible for electing a member of their department to the CC. The department chair shall be responsible for determining how that election will be conducted. The clinical departments represented will include; Family Medicine, Obstetrics and Gynecology,

Psychiatry, Orthopedics, Ophthalmology, Internal Medicine, Pediatrics, Surgery, Neurology and Pathology. A total of 5 members will represent the clinical departments.

Students: one member from each medical school class. Student members will be voted upon by their representative class during their first year and will serve a 4 year term. (4 members)

Academic administration: The Vice-Dean for Medical Education or his/her designee and the Associate Dean for Medical Education will serve as ex officio members of the committee. The Associate Dean for Medical Education will be nonvoting, function as the executive secretary of the committee, organize the agenda as directed by the Chair and maintain the records of the actions of the CC.

The chair of the CC will be one of the 10 faculty members and will be Elected by the full committee one month prior to expiration of the term of a current CC chair.

c. If there are subcommittees of the curriculum committee, describe the charge/role of each, along with its membership and reporting relationship to the parent committee. How often does each subcommittee meet?

MS1 Subcommittee
This committee oversees the organization and management of the first-year curriculum of the MD-program, consisting of 5 integrated pre-clinical education blocks and 1 integrated clinical-skills block. This committee is comprised of MS1 course directors, which are all voted on and approved by the committee itself. This committee meets monthly and minutes are posted online.

MS2 Subcommittee
This committee oversees the organization and management of the second-year curriculum of the MD-program, consisting of 5 integrated pre-clinical education blocks and 1 integrated clinical-skills block. This committee is comprised of MS2 course directors, which are all voted on and approved by the committee itself. This committee meets monthly and minutes are posted online.

Clinical Clerkship Committee
This committee oversees the organization and management of all required and elective clinical clerkships. The committee is comprised of the clerkship directors and clerkship coordinators. The directors are all appointed members. Student representatives from the third and fourth year sit on this committee as well. Directors, coordinators, and students are voting members. The committee meets monthly and minutes are recorded.

Curriculum Evaluation Committee (CEC)
This committee oversees programmatic evaluation and the adequacy of alignment of course & clerkship objectives with the institutional objectives. The CEC meets once a month to monitor the curriculum. This committee reviews the activities of all teaching units and determines whether or not the units are complying with the curricular goals and objectives. This subcommittee sends an annual questionnaire to block and clerkship directors who respond by describing the activities in their units of the curriculum. The subcommittee reviews these reports and makes recommendations that are reported directly to the Curriculum Committee. The Curriculum Committee discusses the report and recommendations and moves them along, intact or amended, to the block/clerkship directors for appropriate amendments of their respective courses.

All four subcommittees of the CC are supported by the OME, whose representatives are non-voting members of each subcommittee meeting. All subcommittee decisions are presented to the CC for final debate and approval.

d. Describe how the curriculum committee and its subcommittees participate in the following:

1. Developing and reviewing the educational program objectives
2. Ensuring horizontal and vertical curriculum integration (i.e., that curriculum content is coordinated and integrated within and across academic years/phases)
3. Monitoring the overall quality and outcomes of individual courses and clerkships
4. Monitoring the outcomes of the curriculum as a whole

1. The educational program objectives are set and evaluated by the CC. In 2012, the curriculum committee formed an ad hoc committee to evaluate the old program objectives and develop new educational program objectives that were in line with the ACGME core competency. This committee worked for approximately six months, getting feedback from all stakeholders including faculty, residents, and students. These six core competencies were adopted as institutional program objectives in 2013. These program objectives are reviewed and updated every three years with the most recent being 2018. The CC also oversees the alignment of the institutional objectives with the Mission Statement of the MUJCESOM, and the attainment of these objectives at individual course/clerkship level.

2. In 2013, the curriculum committee initiated an ad hoc integration committee to refine both vertical and horizontal integration. This committee worked for 2 years identifying curricular content and ensuring it was covered across all four years of the educational program in a logical, cohesive manner. The committee used the 115 diseases that were most commonly seen by students to tie the horizontal and vertical details of the curriculum into a usable table that summarized content location within the individual years and across all four years. After the initial work of the integration committee, the curriculum committee selected the top 35 disease states as a means of evaluating integration at their annual retreat. The committee has provided reports and sought approval of the revised tracking list during curriculum committee deliberations. The goal of the committee was to establish the disease and themes that would be most useful for both horizontal and vertical integration of the newly established integrated curriculum. The committee was dissolved, with the approval of the Curriculum Committee, in November of 2017, after 5-years of close monitoring of integration across the Curriculum. Currently, content integration is discussed at the subcommittee level and course modifications suggested to the CC, as needed.

3. The Curriculum Committee engages in continuous quality monitoring and improvement of the curriculum, meeting twice monthly to review course/clerkship reports provided by the department and students' course/clerkship evaluations. In 2018, the Curriculum Evaluation Committee (CEC) was formed as an independent evaluation subcommittee, which reports directly to the CC. The CEC is comprised of faculty from the clinical and basic science departments and reviews one course/clerkship each month. The CEC reports are prepared in collaboration with the course/clerkship director and include the recommendations of the CEC, which are reviewed and voted upon by the CC.

4. The Office of Medical Education established an Educational Dashboard in the spring of 2017 to assist in tracking educational outcomes, such as when institutional objectives are achieved in the medical education program and forms of pedagogy used to achieve them. The Office of Medical Education also compiles data from the National Board of Medical Educators and shares data on exam performance, content inclusion, strengths and weaknesses of MUSOM students, and comparison of MUSOM students and levels of national performance at various meetings. Meeting minutes document when these types of discussions occur and if changes to the curriculum are recommended or implemented due to findings. Thus, performance on board exams and evaluations of deficits as well and strengths are continuously reviewed. Poor performance in certain areas are often identified, discussed and changes to the curriculum occur when needed. The final monitor of curricular-quality is the annual medical student AAMC Graduation Questionnaire. Student responses in this questionnaire indicate their perceptions of the quality of teaching they received. The Vice

Dean for Medical Education provides this information to the Curriculum Committee and the appropriate Curriculum Subcommittees.

e. Provide two recent examples that illustrate effective functioning of the curriculum committee (i.e., that problem areas related to course or curriculum structure, delivery, or outcomes are being identified and needed changes are being made). Describe the steps taken by the curriculum committee and its subcommittees to address the identified problems and the results that were achieved.

1. Based on student-feedback and USMLE STEP1 strengths and opportunities report, the CC deemed content areas of biostatistics and translational sciences to be insufficiently addressed in the preclinical curriculum. As per the recommendations of the CC, Dr. Todd Gress was entrusted with developing a series of modules and group activities for Clinical Translational Sciences. These sessions will target key areas of deficiencies in the field of biostatistics and translational sciences.

2. Based on feedback from residency program directors and graduating students, the CC sought to increase the quality and quantity of research opportunities available to our students in the clerkship years. To this end, the CC increased the time available for clinical research from 2 weeks to 6. The CC also mandated clearly defined outcomes for these research electives with an expectation of significant progress towards a research manuscript and/or national/local presentation, to be approved by the Clerkship Director or the Dept. Chair.

SUPPORTING DOCUMENTATION

1. The charge to or the terms of reference of the curriculum committee, including the excerpt from the bylaws or other policy granting the committee its authority. If the subcommittees of the curriculum committee have formal charges, include those as well.

   8.1-1 Bylaws for the Curriculum Committee

2. A list of curriculum committee members, including their voting status and membership category (e.g., faculty, student, or administrator).

   8.1-2 Curriculum Committee Members.

3. The minutes of four curriculum committee meetings over the past year that illustrate the activities and priorities of the committee. Note: Have available on-site for the survey team three years of curriculum committee minutes.

   8.1-3 CC Minutes 9-6-18
   8.1-4 CC Minutes 9-20-18
   8.1-5 CC Minutes 10-18-18
   8.1-6 CC Minutes 11-15-18

8.2 USE OF MEDICAL EDUCATIONAL PROGRAM OBJECTIVES

The faculty of a medical school, through the faculty committee responsible for the medical curriculum, ensure that the medical curriculum uses formally adopted medical education program objectives to guide the selection of curriculum content, review and revise the curriculum, and establish the basis for evaluating programmatic effectiveness. The faculty leadership responsible for each required course and clerkship link the learning objectives of that course or clerkship to the medical education program objectives.

NARRATIVE RESPONSE

a. Describe and provide examples of how the medical education program objectives are being used to guide the following activities:

1. The selection and appropriate placement of curriculum content within courses/clerkships and curriculum years/phases
2. The evaluation of curriculum outcomes

1. The selection and appropriate placement of curriculum within courses/clerkships and curriculum years/phases

The SOM's Institutional Competencies (ICs) were designed by faculty, administrators, and students to describe the knowledge, skills, attitudes, and behaviors necessary for the MD degree and to transition to residency training. These competencies are aligned with the ACGME core-competencies and are integrated into our curricular structure, covering all four years of the standard curriculum.

Each course-director utilizes the ICs as the anchor for design and implementation, or revision, of a course. This ensures, where applicable, each course integrates content and assessment methods addressing multiple competencies. Course directors must link course objectives to the ICs in order to demonstrate this integration and to promote the use of assessment methods to progressively measure student attainment of the expectations described in the ICs. Based on this strategy the curriculum is designed to first introduce students to basic principles of normal human structure and function and to become familiar with general skills (such as history taking and physical examination skills) throughout the first year curriculum.

The second year curriculum is designed to promote understanding of the pathophysiology of human disease and to develop detailed methods for assessing and treating these conditions. Students utilize clinical skills first learned in Year 1 to examine patients in inpatient and outpatient settings to improve their skills in assessment and interpersonal communication. Several of the non-MK competencies are covered in these clinical skills courses to prepare our students for effective patient management.

The third year curriculum is designed to provide students with relevant clinical experiences in the main six clerkships but more importantly to enable them to achieve higher level learning in the multiple competencies explicitly covered and assessed in each clerkship. For example, students must demonstrate the ability to utilize the general physical and clinical examination skills obtained in the first two years to obtain focused information relevant to patient presentations in each clerkship. With a common assessment system used across all clerkships this provides the opportunity to progressively measure student competencies ultimately to ensure graduates can be certified as having met the program objectives and, in the near future, the Entrustable Professional Activities to be required of all beginning residents.

Finally, the Year 4 curriculum is designed to provide students with a flexible schedule to complete their attainment of the program objectives (as defined by the Clinical Clerkship Committee)

i. All courses and required clerkships report their coverage of the educational program objectives (six ACGME domains) in their annual reports to the CEC. The CEC collates additional data, including course and faculty evaluations, standardized and non-standardized assessment data,

quality of midpoint evaluations (if applicable), residency match data (if applicable), course syllabi, student and faculty scholarly work, and alignment of pedagogy and assessments. The CEC, in collaboration with the course/clerkship director, compiles its report for the CC to review. The CC reviews and recommends changes/improvements for the next academic year.

ii. All sessions, within each required course and clerkship, link the session's learning objectives to the educational program objectives and the disease list accepted and adopted by the CC. Educational program objectives covered in each course and clerkship are available on the Academic Dashboard for members of the CC and the OME to review. This ensures adequate coverage of these program objectives and flags deficiencies as they arise.

2. The evaluation of curriculum outcomes

The following tools are used to evaluate curricular outcomes:

Student success rate in the USMLE STEP 1 and 2 CK and CS
Student scores on internally developed examinations
Performance-based assessment of clinical skills (e.g., OSCEs)
Student responses on AAMC Medical School Graduation Questionnaire
Student evaluation of courses and clerkships
Student advancement and graduation rates
NRMP results
Specialty choice of graduates
Assessment of residency performance of graduates
Licensure rates of graduates

b. Describe the status of linking course and clerkship learning objectives to medical education program objectives and the roles and activities of course/clerkship faculty and the curriculum committee and its subcommittees in making and reviewing this linkage.

All course/clerkship syllabi link their objectives to the Institutional Competencies. In turn, all sessions, within each required course and clerkship, link the session learning objectives to the educational program objectives and the disease list accepted and adopted by the CC. Educational program objectives covered in each course and clerkship are available on the Academic Dashboard for members of the CEC, CC and the OME to review. The CEC, supported by the Associate Dean of Medical Education, periodically review these linkages and advise the course or clerkship and the CC accordingly. This ensures adequate coverage of these program objectives and flags deficiencies as they arise.

SUPPORTING DOCUMENTATION

1. One example from a course and one example from a clerkship illustrating the linkage of all the learning objectives of the course and the clerkship to the relevant medical education program objectives.

Appendix 8.2-1 Diseases and Therapeutics II Objectives
Appendix 8.2-2 Ob/Gyn Objectives

8.3 CURRICULAR DESIGN, REVIEW, REVISION/CONTENT MONITORING

The faculty of a medical school are responsible for the detailed development, design, and implementation of all components of the medical education program, including the medical education program objectives, the learning objectives for each required curricular segment, instructional and assessment methods appropriate for the achievement of those objectives, content and content sequencing, ongoing review and updating of content, and evaluation of course, clerkship, and teacher quality. These medical education program objectives, learning objectives, content, and instructional and assessment methods are subject to ongoing monitoring, review, and revision by the faculty to ensure that the curriculum functions effectively as a whole to achieve medical education program objectives.

NARRATIVE RESPONSE

a. Describe the roles and activities of the course and clerkship directors and course and clerkship committees, the teaching faculty, the departments, and the chief academic officer/associate dean for the medical education program in the following areas. If other individuals or groups also play a role, include these in the description as well.

1. Developing the objectives for individual courses and clerkships
2. Identifying course and clerkship content, teaching formats, and assessment methods that are appropriate for the course/clerkship learning objectives
3. Evaluating the quality of individual faculty member teaching (e.g., through peer assessment of teaching or review of course content)
4. Monitoring the quality of individual faculty member teaching (e.g., through the review of student evaluations of courses and clerkships)
5. Evaluating the overall quality and outcomes of the course/clerkship

1. Developing the objectives for individual courses and clerkships:

PreClerkship course directors are selected by the MS1 and MS2 subcommittees and recommendations of the Chair of the Basic Science Department are taken into account during the selection process. Faculty members can also volunteer for the position. Clerkship directors are selected by respective department chairs and approved by the Clinical Clerkship Subcommittee and the CC. The selection criteria are based on faculty interest, experience and proven track-record in medical education. The process is supported by the OME. The CC must approve the selection of course and clerkship directors. These individuals are responsible for developing the objectives for their course or clerkship, a process overseen and supported by the OME. The directors, and their associate directors where available utilize national curricular guidelines for areas covered by the course or clerkship to develop learning objectives. These objectives must align with ICs, as approved by the CC, and take into considerations the disease list and USMLE content-outline.

2. Identifying course and clerkship content, teaching formats, and assessment methods that are appropriate for the course/clerkship learning objectives

The course/clerkship director works collaboratively with the Associate and Vice Dean of Medical Education to identify appropriate methods of pedagogy and assessment. The teaching faculty are guided by the course/clerkship director in the inclusion or elimination of the content they teach, in alignment with the course/clerkship objectives. Overall, teaching faculty are responsible for selection of learning materials, assessment items, and assigning learning objectives for the content they teach. The faculty are supported by the course/clerkship director and the OME in their selection of learning objectives, materials, and assessment items. The course/clerkship director oversees the material that is provided and ensures that each learning event contains the required components. The course/clerkship director and faculty member have access to our learning management system, which requires the entry of learning

objectives and the assignment, or tagging, of each teaching session to objectives defined by the CC. The course directors and faculty are supported by the OME. The role of OME is to promote content integration across courses and clerkships; promote active learning pedagogies, like flipped classroom, audience response and TBLs; enhance the quality of in-house assessments; and, determine ways to use student-feedback to improve their educational experience.

The PreClerkship curriculum is designed to provide a foundational basis of human health and disease to prepare students for their clinical experience in Years 3 and 4. This curricular phase also prepares the students for their licensure examinations, USMLE STEP 1 and 2. USMLE content outline, student-feedback, feedback from clinical faculty and clerkship directors, and input from the OME form the basis of content selection in this part of the curriculum. Additionally, guidelines published by national organizations are also used to ensure curricular content is complete and appropriate. For example, the Association of Medical School Physiology Chairs published guidelines for coverage of pharmacology topics in 2012 and this publication has been used extensively throughout courses in the first and second year to ensure physiology content is appropriate throughout the blocks. Outside resources used extensively by the students are also consulted to ensure adequate coverage of "high-yield" content. For e.g. all preclinical course directors (block directors) are provided with a copy of First-Aid to STEP 1 for identification of "high-yield" content. Recently, based on student feedback, histology content in the preclinical curriculum was scaled back to refocus on high yield and practical information, with appropriate integration of histology with pathology in the second year curriculum. Student performance on customized NBME and USMLE STEP 1 is discussed and reviewed by the subcommittees and the CC to adjust content-coverage and assessment approaches. For e.g. student performance on the immunology portion of the USMLE STEP 1 dropped in 2016, together with student-feedback, the course-directors advised the CC and OME for a need to change immunology instruction. Dr. John Yanelli, an experienced immunology educator from University of Kentucky, was hired on a subcontract to cover immunology in our MS2 curriculum as a national search for an immunology instructor was underway. Finally, the OME and the CC review coverage of Institutional Competencies at the course level and recommends change, if warranted.

Assessment methods in the PreClerkship courses are set by the course directors and overseen by the MS1 and 2 subcommittees and the OME. Course directors set the assessment standards and evaluate them frequently to ensure adequacy of alignment between session, course and institutional objectives. The OME coordinates regular evaluation of individual exams and course assessments to promote improvements in the accuracy of these assessments. For e.g., beginning this academic year, all computerized exams are required to tag individual items on the Bloom's Scale. Assessment items are tagged as Bloom's level 1 (recall), 2 (comprehension), 3 (application), or 4 (synthesis). Students receive feedback on their performance and work with course director and the Office of Academic Support to improve their performance at each level. Assessment of clinical skills, history taking and physical examination skills, in the PreClerkship curriculum is designed by directors of the Introduction to and Advanced Clinical Skills courses. Student performance on these assessments is monitored by the course directors and the OME. Non-traditional assessments (e.g. written assignments, readiness assurance of TBL, reflections) are set by the course directors and reported annually to the CC.

Clerkship content is established by faculty from each specialty and regularly monitored by clerkship directors, chairs, and the OME through the Clinical Clerkship Committee. Each clerkship has prepared a core manual to describe the common learning objectives utilized in a single clerkship on all campuses and to describe the methods of instruction utilized to achieve the learning objectives. Guidelines from national organizations, such as the Society for Teachers of Family Medicine, Association of Professors of Gynecology and Obstetrics, Council on Medical Student Education in Pediatrics, and the Association of Directors of Medical Student Education in Psychiatry, are used within each clerkship to align objectives to national standards. Clerkship outcomes are regularly monitored by the Office of Medical Education and presented to clerkship directors and chairs. For example, student performance on end-of-clerkship NBME shelf-exams is monitored and reported back to the clerkship, the CCC and the CC. This information is used to determine if additional focus should be placed on identified areas. Clerkship faculty are offered the opportunity to review sample examinations from the NBME to ensure they are aware of the covered content and can adjust teaching activities to cover relevant

information. Student performance on CCEs is tracked longitudinally by the clerkship and the OME and remedial efforts made where necessary.

Assessment methods in clerkships are designed to assess student performance across multiple competencies and have been designed to provide consistent assessment across the seven clerkships in the Year 3 curriculum. Content and assessment in Year 4 are established by faculty and course directors and coordinated by the Clinical Clerkship Committee.

3. Evaluating the quality of individual faculty member teaching (e.g., through peer assessment of teaching or review of course content)

The quality of teaching is monitored through a number of processes. The quality of individual faculty instruction is monitored by review of student evaluations of these faculty (see below) and by direct observations by block directors of faculty who teach within their block. All block directors attend individual sessions and provide feedback to faculty to develop strategies for addressing areas in need of improvement, should they exist. Additionally, the annual performance of students on each of the blocks and clinical clerkships is monitored as a proxy for quality of education. These data are summarized and presented to the appropriate Curriculum Subcommittees and as well as the CC. In addition the USMLE Step 1 and Step 2 performances are shared with the same committees, by the OME, on an annual basis and are monitored longitudinally to identify areas of deficiency in student performances. The students themselves have an opportunity in the common clerkship evaluation form as well as the common questions that bridge across the block evaluations to identify their perceptions of the quality of their teaching. The student Liaison-committee also meets with the course directors at least a few times a semester and provide constructive feedback on individual faculty and the block as a whole. The final monitor of teaching quality is the annual medical student AAMC Graduation Questionnaire. Part of the responses in this questionnaire indicate student's perceptions of the quality of teaching they received. These data are also shared and discussed at the subcommittee and the CC levels by the Vice Dean of Medical Education.

4. Monitoring the quality of individual faculty member teaching (e.g., through the review of student evaluations of courses and clerkships)

All faculty are evaluated by the students. After each block or clerkship, the evaluations of the course and the faculty members are collated and reviewed by the Associate Dean of Medical Education. Students provide feedback in two ways, via 5-point Likert scale for a set of 7-10 questions and through free text entries. These evaluations are completed online on the New Innovations platform and collated reports are prepared at the end of each course or clerkship for distribution to the faculty member or resident and to the course director for their review. The results are forwarded to the block leader or clerkship director for review and discussion with the faculty members. The OME and/or dept. chair work with faculty members to ensure highest quality of medical education for our students.

Additionally, the Curriculum MAP allows for instant feedback on each sessions and provides a space for students to ask questions. On top of each session page in the MAP, there is a link to our "One Minute Feedback". Students can rate the session on the clarity and effectiveness of pedagogy and use the provided space to ask a question or provide feedback. All entries are anonymous and the feedback is sent to the faculty-presenter, the Block Leader and the Associate Dean for Medical Education. This forum is used to improve the curricular content and the educational-experience in real-time.

5. Evaluating the overall quality and outcomes of the course/clerkship

The overall evaluations of the courses (strengths and weakness) and students' comments are reviewed by the CEC, along with the course director, and presented to the CC for review. The course review document provides a section for the course directors to provide the feedback from students. Each year, we see modifications to the course that are based on student feedback. Other objectives measure course or clerkships effectiveness, including monitoring of student performance on institutionally developed and

national examinations. Student performance on national standardized exams is carefully monitored by comparing performance of the JCESOM students to those in the national comparison cohort for that examination. For example, item analysis data provided with comprehensive Basic Science Examination has permitted the school to focus attention on areas of the curriculum where our students tended to underperform (such as Biostatistics and Immunology) and to enact modifications to courses to address these problems in a timely and directed way. Similar data are also available for clerkship NBME exams in order to identify tested areas that appear to receive insufficient coverage within the clerkship.

In addition, the Associate Dean of Medical Education along with the Curriculum Subcommittee Chairs meet with MS1 and MS2 classes every other Wednesday. This informal session is "What's Working Wednesday" and provides the students and the administration an avenue to discuss strengths and opportunities of the course and the curriculum as a whole. Student's concerns and feedback from these sessions are incorporated into curricular reform as and when feasible.

b. Describe the process of formal review for each of the following curriculum elements. Include in the description the outcomes that are evaluated, as well as the frequency with which such reviews are conducted, the process by which they are conducted, the administrative support available for the reviews (e.g., through an office of medical education), and the individuals and groups (e.g., the curriculum committee or a subcommittee of the curriculum committee) receiving and acting on the results of the evaluation.

1. Required courses in the pre-clerkship phase of the curriculum
2. Required clerkships
3. Individual years or phases of the curriculum

1. **Required courses in the pre-clerkship phase of the curriculum**: students are required to complete several questionnaires within each preclinical course. Completion of these questionnaires is considered an expectation of professional behavior for the students and completion rates are generally 100%. Evaluations of preclinical courses are collated by the staff of the OME and reported to the Associate Dean of Medical Education and the course director. Annually, the course director prepares a course report for review by the CC. All data pertaining to the preclinical course/block is collated by the course director, including:
    a. Student performance metrics for the current and previous two academic years
    b. Pedagogy and assessment breakdown for the current and previous academic year
    c. Description of active learning sessions in the block
    d. Block/clerkship objectives in relation to the ICs
    e. Pedagogy and assessment for cultural competence and health care disparities.
    f. Points of formative and summative feedback
    g. Course and faculty evaluations
    h. Liaison committee feedback and recommendations
    i. Identified gaps and redundancies
    j. Plans for the next academic year.

This course report is presented to the CC for review and recommendations, at least two weeks prior to the meeting. All CC recommendations are noted in the minutes and sent back to the course for review and implementation.

2. Required clerkships: students are required to complete comprehensive course and faculty evaluation after each clerkship. Completion of these questionnaires is considered an expectation of professional behavior for the students and completion rates are generally 100%. Evaluations are collated by the staff of the OME and reported to the Associate Dean of Medical Education and the clerkship director. Annually, the course director prepares a course report for review by the CC. All data pertaining to the preclinical course/block are collated by the course director, including:

a. Student performance metrics for the current and previous two academic years
b. Pedagogy and assessment breakdown for the current and previous academic year
c. Description of active learning sessions in the Clerkships
d. Clerkships objectives in relation to the ICs
e. Points of formative and summative feedback
f. Student evaluations and liaison committee recommendations
g. Identified gaps and redundancies
h. Plans for the next academic year.

This Clerkship report is presented to the Clinical Clerkships Committee and then to the CC for review and recommendations at least two weeks prior to the meeting. All CC recommendations are noted in the minutes and sent back to the Clerkship for review and implementation.

Academic year 2018-19 and onwards, the CEC, in collaboration with the course/clerkship director, generates the course evaluation report. The CEC report is a comprehensive evaluation of the course focusing on alignment and attainment of Institutional Competencies at the course/clerkship level. The CEC report includes:

a. Course/Clerkship learning objectives across the ACGME domains.
b. Review of the syllabus for gaps and redundancies.
c. Coverage of MUSOM longitudinal themes (if any).
d. Evidence of adequate coverage and assessment of MUSOM ICs.
e. Covered core EPAs for entering residency (clerkships only).
f. Pedagogies used in the course/clerkship
g. Opportunities to participate in education sessions (actual or simulated) that involve the basic principles of clinical and translational research.
h. Pedagogy and assessment of ethics, cultural competence, and societal problems.
i. Opportunities for students to focus on communication with patients and or patients' families.
j. Opportunities for students to collaborate with non-physician health professionals and health care teams.
k. Frequency and effectiveness of formative feedback.
l. Opportunities to develop independent learning and critical thinking skills
m. Completion rate of required patient encounters (clerkships only).
n. Completion rate of required procedures (clerkships only).
o. Assessment breakdown
p. Student performance on institutional assessments, NBME, and USMLE STEP1 or 2 (pertaining to content covered in the course/clerkship).
q. Faculty and course evaluations
r. Residency match data (clerkships only).
s. GQ or Y2 survey
t. Student scholarly work (clerkships only).
u. Identified gaps and redundancies
v. Recommendations of the CEC

3. Individual years or phases of the curriculum: Individual years of the curriculum are reviewed on an ongoing basis by the respective subcommittees and reported to the CC. These reviews are based on objective data, such as student performance the Comprehensive Basic Science Examination (CBSE) and customized NBME examinations in MS2 closely predict their performance on USMLE STEP1. STEP1 performance is used to review educational strengths and opportunities in the PreClerkship curriculum. Similarly, NBME-shelf pass rate and STEP 2CK and CS scores are metrics for the quality of education in Year 3. NRMP data and student graduation rates are indicators of overall strength of the program.

c. Describe how the curriculum as a whole is evaluated, including the methods used and the data collected to determine the following:

1. The horizontal and vertical integration of curriculum content, and whether sufficient content is included and appropriately placed related to each of the medical education program objectives.
2. The outcomes of the medical education program and whether each of the medical education program objectives is being met.

Include in the description the frequency with which a review of the curriculum as a whole is conducted, the administrative support available for the review, and the individuals and groups (e.g., the curriculum committee and/or a subcommittee) receiving and acting on the results.

1. The horizontal and vertical integration of curriculum content, and whether sufficient content is included and appropriately placed related to each of the medical education program objectives: The CC, with assistance from the OME, provides the overall oversight to ensure adequate integration of curricular content across all four years. Curricular evaluation is an ongoing process and happens with each course report, subcommittee report and at the biannual CC retreat. The Academic Dashboard is an invaluable tool in this exercise. All courses and clerkships tag individual sessions to the agreed disease list and the USMLE content outline. This ensures adequate coverage of the relevant content. Each session is also tagged to ICs and this too can be monitored with the aid of the Academic Dashboard.
2. The outcomes of the medical education program and whether each of the medical education program objectives is being met: the medical education program objectives are longitudinally tracked across all courses and clerkships. This is done by collecting the following data:

Contact hours by Competencies and Longitudinal Themes across all courses (Academic dashboard)
Student success rate in the USMLE STEP 1 and 2 CK and CS
Student scores on customized NBMEs and end-of-clerkship shelf exams
Performance-based assessment of clinical skills (e.g., CCEs)
Student responses on AAMC Medical School Graduation Questionnaire
Student advancement and graduation rates
NRMP results
Specialty choice of graduates
Assessment of residency performance of graduates
Licensure rates of graduates

These data are collected by the OME and presented and discussed at the CC, annually. Clear patterns of performance, specifically below national means or changing in a negative direction, are identified by the CC. If such changes are noticed, the involved clerkship, course or block would be notified and discussions would occur as to what could be the cause and what remediation may need to be taken. In recent years, JCESOM students have shown consistent improvement but are still lower than national means. Data concerning alumni are held by the Office of Alumni Affairs and presented to the CC upon request of the Vice Dean of Medical Education.

d. Describe how and how often curriculum content is monitored. Provide examples of how monitoring of curriculum content and reviewing the linkage of course/clerkship learning objectives and education program objectives have been used to identify gaps and unwanted redundancies in topic areas. Note which individuals, committees, and units (e.g., departments) receive the results of the reviews of curriculum content.

The content of curriculum is reviewed on an ongoing basis, both on a course-by-course basis and for each curriculum year by the respective subcommittees and the CC. This process is aided by curricular mapping and the Academic Dashboard. On the Curriculum MAP, individual sessions are tagged to Institutional Competencies (IC) and milestones. Student contact hours, by pedagogy, for each competency are shown on the MAP and are tracked longitudinally by the Associate Dean of Medical Education. This view is available to all course/clerkship

directors and faculty. These data are reviewed by the CC at the time of the annual course/clerkship review. The newly formed CEC specifically tracks sessions and content addressing each IC and relevant milestones in every course/clerkship. The report of the CEC is reviewed and approved by the CC.

Additionally, as previously mentioned, the USMLE Content Outline, Institutional Disease List, and recommendations from national organizations such as the Association of Medical School Physiology Chairs are used to provide guidance on content areas to be covered across the continuum of the curriculum. Student-feedback is also extensively used in this process. All identified gaps and redundancies are reported on the course/clerkship course report to the CC. OME, Block-Leaders, and Clerkship Directors receive the course report, which is also available on the JCESOM website.

For e.g., curricular mapping has shown not enough content in the PreClerkship curriculum addressing the IC, Practice-Based Learning and Improvement. Upon recommendations of the CC, multiple sessions targeting this competency are included in the MS1 and MS2 courses. These sessions are organized by Dr. Todd Gress and encompass foundations of Clinical and Translational sciences. One such session in the MS2 curriculum is "Clinical Translational Research: Observational Studies vs. Clinical Trials" by Dr. Gress on 10/18/2018. The results of the review process are shared with the CC, relevant subcommittee and the course/clerkship director.

e. Describe the tool(s) used for monitoring the content of the curriculum (i.e., the "curriculum database"). List the roles and titles of the individuals who have access to the curriculum database. List the roles and titles of the individuals who have responsibility for monitoring and updating its content.

Individual Responsibilities		
Individual	**Role**	**Review of Content**
Associate Dean of Medical Education	Management and Oversight	Review content for all years
Chief Information Officer	Design, Development and Implementation	
Director of Digital Media	Implementation and Technical Issues	
Director of Academic Information	Implementation and Technical Issues	
Course/Clerkship Directors	Monitor and Update	Individual Courses
Faculty	Populate	Individual Sessions
Staff of the Office of Student Affairs	Populate	Sessions coordinated by Student Affairs
Committee Responsibilities		
The Curriculum Committee	Oversight of Curricular Content	All Years
The Clinical Clerkship Committee	Content for Years 3 and 4	Review of content for years 3 and 4
MS2 Subcommittee	Content for Year 2	Review of content for year 2
MS1 Subcommittee	Content for Year 1	Review of content for year 1

SUPPORTING DOCUMENTATION

1. Copies of any standardized templates used for course and/or clerkship reviews.

   Appendix 8.3-1 MS1-MS2 Course Eval Form
   Appendix 8.3-2 MS3-MS4 Clerkship Eval Form

2. A sample review of a course and a clerkship.

   Appendix 8.3-3 MDC 711 Eval Fall 2018
   Appendix 8.3-4 PED 898 Eval Fall 2018
   Appendix 8.3-5 FCH 742 Eval Rotation 2 AY 18-19
   Appendix 8.3-6 MDC 751 Eval Fall AY 18-19

3. The results of a search of the curriculum database for curriculum content related to the topics of "acid-base balance" and "health care financing."

   Appendix 8.3-7 Curriculum Database Search Results

8.4 PROGRAM EVALUATION

A medical school collects and uses a variety of outcome data, including national norms of accomplishment, to demonstrate the extent to which medical students are achieving medical education program objectives and to enhance medical education program quality. These data are collected during program enrollment and after program completion.

SUPPORTING DATA

Table 8.4-1 | USMLE Requirements for Advancement/Graduation

Place an "X" in the appropriate columns to indicate if the school's medical students are required to take and/or pass USMLE Step 1, Step 2 CK, and Step 2 CS for advancement and/or graduation.

	Take	Pass
Step 1	X	X
Step 2 CK	X	X
Step 2 CS	X	X

Table 8.4-2 | Monitoring of Medical Education Program Outcomes

Provide the individuals and/or groups in the medical school that are responsible for reviewing the results of each of the indicators that are used to evaluate medical education program quality and outcomes and how often the results are reviewed.

Outcome Indicator	Individuals and groups receiving the data	How often these results are reviewed
Results of USMLE or other national examinations	Vice and Associate Dean of Medical Education	Upon completion
Student scores on internally developed examinations	Associate Dean of Medical Education	Upon completion
Performance-based assessment of clinical skills (e.g., OSCEs)	Vice and Associate Dean of Medical Education, and Chair of Curriculum Committee	Upon completion – once per year
Student responses on the AAMC GQ	Curriculum Committee, Vice and Associate Dean of Medical Education, and Asst. Dean of Student Affairs	As reported – yearly
Student advancement and graduation rates	JCESOM Registrar	As reported
NRMP match results	Assist. Dean of Student Affairs and Vice Dean of Medical Education	Yearly – as completed
Specialty choices of graduates	Assistant Dean of Student Affairs and Vice Dean of Medical Education	Yearly – as completed
Assessment of residency performance of graduates	Vice Dean of Medical Education	Yearly
Licensure rates of graduates	Vice Dean of Medical Education	Yearly
Practice types of graduates	Vice Dean of Medical Education	Yearly
Practice location of graduates	Vice Dean of Medical Education	Yearly

Table 8.4-3 | STEP 1 USMLE Results of First-time Takers

Provide the requested *Step 1 USMLE results* of first-time takers during the three most recently completed years.

Year	# Examined	Percent passing school (national)	Mean total score and SD		National mean total score and SD	
			Score	SD	Score	SD
2017-2018	76	92% (96%)	221	19	230	19
2016-2017	62	97% (96%)	225	21	230	20
2015-2016	75	95% (95%)	221	20	228	21

Table 8.4-4 | STEP 2 CK USMLE Results of First-time Takers						
Provide the requested *Step 2 CK USMLE* results of first-time takers during the three most recently completed academic years.						
Academic year	# Examined	Percent passing school (national)	Mean total score and SD		National mean total score and SD	
			score	SD	Score	SD
2017-2018	71	100%	238	14	243	17
2016-2017	69	95% (96%)	236	17	242	17
2015-2016	58	97% (96%)	238	16	242	17

Table 8.4-5 | STEP 2 CS USMLE Results of First-time Takers		
Provide the requested *Step 2 CS USMLE results* of first-time takers during the three most recently completed academic years.		
Academic year	# Examined	Percent passing school (national)
2017-2018	72	96% (95%)
2016-2017	69	97% (96%)
2015-2016	60	100% (97%)

NARRATIVE RESPONSE

a. Select three current educational program objectives contained in the response to Element 6.1. One example should come from each of the domains of knowledge, skills, and behaviors. For each objective, describe how the attainment of the objective has been evaluated and provide specific data illustrating the extent to which the objective is being met.

1. Patient Care/Clinical Skills: Demonstrate proper technique in performing both a complete and symptom-focused examination, addressing issues of patient modesty and comfort:-

Evaluation strategies for this objective include performance on standardized patient-OSCEs in one final CCEs in MS1 and MS2 each, 7 CCEs in MS3.

Objective Measure	2015-16	2016-17	2017-18
Percentage of MS1 students passing the year-end CCE without remediation	100%	100%	100%
Percentage of MS1 students passing the year-end CCE without remediation	100%	100%	100%
Percentage of MS3 students passing clerkship CCEs without remediation	100%	100%	100%
Percentage of students passing Step 2 CS on the first attempt	100%	97%	96%

2. Medical Knowledge: Describe how the altered structure and function (pathology and pathophysiology) of the body and its major organ systems are manifest through major diseases and conditions: -

Objective Measure	2015-16	2016-17	2017-18
Percentage of MS2 students passing all courses without remediation	97%	97%	96%
Percentage of students passing the USMLE STEP 1 in first attempt	95%	97%	92%
Percentage of students passing the USMLE STEP 2 in first attempt	97%	95%	100%
Percentage of MS3 student passing Clerkship NBME Shelf without remediation	96%	92%	85%

3. Professionalism: Demonstrate honesty and integrity in all interactions with patients, their families, and colleagues:-

All domains of professional conduct are clearly defined and made available to students and educators alike. These are also included in course/clerkship syllabi. All instances of violation are reported to the APSC and students are counseled appropriately by block/clerkship directors and the Assistant Dean for Academic Affairs. Repeat or egregious violations are brought to the APSC for institutional action, including dismissal. Evaluation strategies include peer-peer feedback in MS1 and 2, student participation in required activities, overall student conduct with peers, faculty and patients, narrative assessment of students from faculty facilitators in the required clerkships and MS4 electives, and Standardized Patient feedback in CCEs in years 1, 2 and 3.

Objective Measure	2015-16	2016-17	2017-18
Percentage of students whose behavior within MS1 or MS2 courses did not require review or action by the APSC	100%	100%	99%
Percentage of students whose behavior within MS3 or MS4 courses did not require review or action by the APSC	100%	98%	99%
Percentage of students, across all years, passing standardized-patient professionalism standards in the CCEs without remediation	100%	100%	100%
Percentage of students meeting MUSOM standards for professional behavior in clerkships as measured on Clerkship assessments	100%	98%	99%

b. Describe any efforts to address outcome measures that illustrate suboptimal performance by medical students/graduates in one or more of the educational program objectives. Provide two examples of the steps taken to address identified gaps between desired and actual outcomes.

a. Outcome measure: Clinical Skills—Following low pass rates of our students on STEP 2 CS in 2013 (90% pass rate), the Curriculum Committee mandated Clinical Competency Exams for all third year students. This is given in the spring semester of their third year and is required for all students. These CCEs are video recorded and reviewed with the students on an individual basis, prior to their scheduled CS date. This has significantly improved our students' performance on the STEP 2 CS, evidenced in our higher than national pass rate for this assessment.
b. Outcome measure: Medical Knowledge—student pass rate on clerkship shelf-exams has steadily declined over the past two years. Amongst other things, the CC has recognized insufficient exposure to NBME shelf exams and reduced weightage of these exams in students' clerkship-grades as contributory factors. The CC has advised all clerkships to provide students the opportunity to take a mid-point practice NBME and include the student's shelf-performance on the MSPE.

SUPPORTING DOCUMENTATION

1. Copies of printouts and graphs provided by the National Board of Medical Examiners that compare the performance of national and medical school first-time takers for USMLE Step 1, Step 2 CS, and Step 2 CK for the past three years (Step 1)/academic years (Step 2).

Appendix 8.4-1 Step 1 2016
Appendix 8.4-2 Step 2 CS 2015-2016
Appendix 8.4-3 Step 2 CK 2015-2016
Appendix 8.4-4 Step 1 2017
Appendix 8.4-5 Step 2 CS 2016-2017

Appendix 8.4-6 Step 2 CK 2016-2017
Appendix 8.4-7 Step 1 2018
Appendix 8.4-8 Step 2 CS 2017-2018
Appendix 8.4-9 Step 2 CK 2017-2018

2. Feedback from residency program directors and/or graduates on the graduates' attainment of the school's competencies/educational program objectives.

    Appendix 8.4-10 Resident Director Survey Form

8.5 MEDICAL STUDENT FEEDBACK

In evaluating medical education program quality, a medical school has formal processes in place to collect and consider medical student evaluations of their courses, clerkships, and teachers, and other relevant information.

NARRATIVE RESPONSE

a. Describe the methods used to collect evaluation data from medical students on course and clerkship quality. What individual(s)/office(s) have the responsibility for data collection?

MS1 and MS2: Student feedback is collected at the conclusion of each unit of the didactic blocks. The feedback is collected electronically, using the New Innovations software system administered by the staff of the OME. Students are required to complete a survey on the content of the preceding unit and the teachers who participated in the unit. The data are organized into formal reports provided to the Associate Dean for Medical Education and the block directors for review and distribution to the participating faculty and preceptors. The survey questionnaire receives input from the OME, is approved by the CC, and the block (course) directors may choose to add additional questions, targeted at unique components of their blocks.

MS3 and MS4: Students are required to complete a comprehensive survey at the completion of each clerkship period. This survey is designed to mirror the structure of the AAMC GQ as closely as possible including questions in the various categories utilized in the AAMC GQ (e.g., learning environment, clerkship management, quality of teaching, quality of feedback, exposure to and feedback on clinic skills, and overall satisfaction with the learning experience). The survey is delivered using the New Innovations software system similar to the surveys of blocks in Years 1 and 2. The results are collated every 8-weeks by the staff of the OME and reported to clerkship directors and the Associate Dean for Medical Education for review and distribution to the participating faculty and preceptors.

All survey data are also sent to the CEC and used in the course/clerkship evaluation.

b. Describe whether medical students provide evaluation data on individual faculty, residents, and others who teach and supervise them in required courses and clerkship rotations.

For all courses and clerkships, medical students are expected and required to provide feedback on the course and all instructors. This includes evaluations of individual faculty, residents, and others who teach and supervise them. These evaluations, anonymized, are completed on the New Innovations platform. Additionally, as discussed above, the Curriculum MAP (for MS1 and 2) allows for instant feedback on each session and provides a space for students to ask questions. On top of each session page in the MAP, there is a link to our “One Minute Feedback”. Students can rate the session on the clarity and effectiveness of pedagogy and use the provided space to ask a question or provide feedback. All entries are anonymous and the feedback is sent to the faculty-presenter, the course or clerkship director and the Associate Dean for Medical Education.

c. Provide data from the independent student analysis on students' satisfaction with the school's responsiveness to student feedback on courses/clerkships.

From 2017-2018 Independent Student Analysis:

Medical school responsiveness to student feedback on courses/clerkships											
Medical School Class	Number of Total Responses to this Item	Number and % of N/A Responses		Number and % of Very Dissatisfied (1)		Number and % of Dissatisfied (2)		Number and % of Satisfied (3)		Number and % of Very Satisfied (4)	
		N	%	N	%	N	%	N	%	N	%
M1	80	69	73.4	0	0.0	1	1.3	6	7.6	14	17.7
M2	84	76	71.4	0	0.0	2	2.4	13	15.5	9	10.7
M3	64	15	7.7	5	7.7	4	6.2	23	35.4	28	43.1
M4	75	2	2.7	5	6.7	7	9.3	33	44.0	28	37.3
Total	303	162	41.3	10	3.3	14	4.6	75	24.8	79	26.1

SUPPORTING DOCUMENTATION

1. Standardized forms used by students in the evaluation of courses and/or clerkships. If there are no standardized forms, provide sample forms for individual courses and clerkships. Note if the forms are completed online or on paper.

   Appendix 8.5-1 Course Evaluation Form
   Appendix 8.5-2 Clerkship Evaluation Form

8.6 MONITORING OF COMPLETION OF REQUIRED CLINICAL EXPERIENCES

A medical school has in place a system with central oversight that monitors and ensures completion by all medical students of required clinical experiences in the medical education program and remedies any identified gaps.

SUPPORTING DATA

Table 8.6-1 | Alternative Clinical Experiences

Provide all required clinical encounters/skills for each listed clerkship that were satisfied with alternative methods by 25% or more of students in the most recently-completed academic year, and describe what the alternative methods were (e.g., simulations, computer cases). Add rows as needed. Only schools with regional campuses need to specify the campus for each clerkship. Refer to element 6.2 for the list of required clinical encounters/skills.

	Campus	Clinical encounters/skills where alternative methods were used by 25% or more students	Alternative method(s) used for remedying clinical encounter gaps
Family medicine	All	None	Simulation and online modules
Internal medicine	All	None	Simulation and online modules
Ob-Gyn	All	None	Simulation and online modules
Pediatrics	All	None	Simulation and online modules
Psychiatry	All	None	Simulation and online modules
Surgery	All	None	Simulation and online modules

NARRATIVE RESPONSE

a. Describe the process(es) used by students to log their required clinical encounters and skills. Is there a centralized tool used for logging or do individual clerkships use their own systems?

Students use New Innovations to log their required clinical encounters and skills based on the Educational Objectives of each clerkship. Completion of 85% of patient encounters and 100% of procedures is a graduation requirement for our students.

b. Summarize when and how each student's completion of clerkship-specific required clinical encounters and skills is monitored by the following individuals, including whether the results of monitoring are discussed with the students, for example as part of a mid-clerkship review:

1. The student's attending physician, supervising resident, preceptor
2. The clerkship director

1. The student's attending physician, supervising resident, preceptor: Attending physicians, residents, and preceptors are aware of the required clinical encounters to which they may expose students. Completion of the clerkship specific required clinical encounters and skills is monitored through student input into New Innovations.
2. The clerkship director: Completion of the clerkship specific required clinical encounters and skills is monitored through student input into New Innovations. Data are compiled by the clerkship coordinators and reviewed by the clerkship directors at the mid-clerkship formative session and the week before completion of the rotation. Any deficits are remedied through real patient encounters, online modules, quizzes, or simulation.
3. Assistant Dean of Academic Affairs monitors the patient and procedure log and ensures that there are no red flags and no student is being overlooked.

c. Summarize when, how, and by what individuals and committees aggregate data on students' completion of clerkship-specific required clinical encounters and skills is monitored. Describe how data on completion rates are used by clerkship directors and the curriculum committee and/or a relevant curriculum subcommittee to assess the adequacy of patient volume and case mix.

Data about student completion of required encounters are collected by the clerkship coordinators at mid-rotation and before completion of the clerkship. Any abnormal patterns in the completion rate are reported to the Office of Medical Education and to the Assistant Dean of Academic Affairs. Significant non-completion rates are discussed at the monthly Clinical Clerkship Committee meetings to determine if the requirement is appropriate, if there is adequate time in the required setting, and/or whether alternative methods are available and appropriate if the educational objective is important enough to remain on the list of required encounters. These recommendations are forwarded to the CC for review and approval.

8.7 COMPARABILITY OF EDUCATION/ASSESSMENT

A medical school ensures that the medical curriculum includes comparable educational experiences and equivalent methods of assessment across all locations within a given course and clerkship to ensure that all medical students achieve the same medical education program objectives.

NARRATIVE RESPONSE

a. Describe the following for each course or clerkship offered at more than one instructional site, including regional campus(es), (also see the response to element 2.6).

1. How faculty members at each instructional site are informed of and oriented to the learning objectives, required clinical encounters and skills, assessment methods, and grading system for the course or clerkship
2. How and how often the individuals responsible for the course or clerkship communicate with site leadership and faculty at each instructional site regarding course or clerkship planning and implementation, student assessment, and course evaluation
3. The mechanisms that are used to ensure that leadership/faculty at each site receive and review student evaluations of their educational experience, data regarding students' completion of required clinical experiences and grades, and any other data reflecting the comparability of learning experiences across instructional sites. Describe the specific types of data reviewed and how the discussions of the data with site leadership and faculty occurs

1. How faculty members at each instructional site are informed of and oriented to the learning objectives, required clinical encounters and skills, assessment methods, and grading system for the course or clerkship:

MS1 and MS2: the preclinical curriculum is only taught at the Marshall Campus by our faculty who have faculty-appointments at the University. In the event of unavailability of content experts to teach specific subtopics, JCESOM has subcontracted faculty, content-experts from other Universities to temporarily fill the gap. E.g. Dr. John Yanelli is full time faculty in the Microbiology, Immunology, Molecular Genetics Department of the University of Kentucky, College of Medicine; and is subcontracted by JCESOM to teach some topics in immunology in the second-year curriculum.

MS3 and MS4: All six of our required clerkships can use a variety of learning sites. Each of these six required clinical clerkships has developed a method for advising its faculty members about the objectives and grading system for the clerkship. These include, annually updated syllabi made available to all faculty and residents, annual meetings with the clerkship directors, and education and training for new faculty and residents. Student progress is assessed across all clinical sites for a clerkship using equal assessment methods. The three major components of the grading system are a final comprehensive multiple choice examination provided by the NBME, Standardized Patient Encounter (comprehensive clinical exam), and individual assessments based on direct observations by faculty and residents using a standardized assessment form.

2. How and how often the individuals responsible for the course or clerkship communicate with site leadership and faculty at each instructional site regarding course or clerkship planning and implementation, student assessment, and course evaluation:

Each of the individual departments responsible for a required clerkship has developed a method for planning, implementation, student evaluation, and course evaluation. All have established open communication models with open office hours for students and faculty. Ad hoc meetings via telephone, email and post are conducted to assure that any new information flows to the off campus teaching sites in a timely fashion. Conversely, education directors and volunteer clinical faculty have ready access to the clerkship director through these same means, assuring a conduit for important feedback from the field. All course and faculty evaluations are standardized across the clerkships and collated by the OME for distribution to the clerkship directors and the

CEC. The clerkship directors are responsible for sharing and discussing individual faculty evaluations and feedback, and for addressing concerns raised in these evaluations.

3. **The mechanisms that are used to ensure that leadership/faculty at each site receive and review student evaluations of their educational experience, data regarding students' completion of required clinical experiences and grades, and any other data reflecting the comparability of learning experiences across instructional sites. Describe the specific types of data reviewed and how the discussions of the data with site leadership and faculty occurs**

   As described in element 8.3, students complete the standardized clerkship course and faculty evaluations, a multi-page survey covering numerous aspects of their clerkship experience at the conclusion of each clerkship period. The Office of Medical Education generates data from the results of these surveys at various times, specifically after each period, after each pair of clerkship periods, and as annual reports. The single period reports are reviewed by the Associate Dean of Medical Education at the administrative levels to identify any major concerns which require immediate action. Reports are disseminated to the clerkship directors for review, with a specific emphasis on cross-campus variations that might illuminate concerns about a specific location. Annual evaluation data are sent to the CEC for its review of individual clerkships. AAMC Graduation Questionnaire data are also presented on an annual basis to the CEC, CCC, and the CC to identify any areas of concern in terms of clerkship performance.

b. Describe the individuals (e.g., site director, clerkship director, department chair) and/or groups (curriculum committee or a curriculum committee subcommittee) responsible for reviewing and acting on data/information related to comparability across instructional sites.

   Clerkship activities at each site are coordinated and assured for comparability at three levels:

   1. Clerkship level coordination: each clerkship on each campus is under the direct supervision of a clerkship director. The department chair appoints the clerkship director after consultation with the Dean and the Vice Dean of Medical Education. Clerkship directors are responsible for ensuring the clerkship learning objectives are achieved and students complete required activities.
   2. Clinical Clerkship Committee: the CCC meets on a monthly basis and review data relevant to the clinical curriculum, including student performance on shelf exams, USMLE STEP 2CS and CK, AAMC GQ data and student areas of concern. The CCC is advised by the Asst. Dean of Student Affairs, and the Associate and Vice Dean of Medical Education.
   3. CEC and the CC: CEC's review of a clerkship includes data regarding comparability across instructional sites and advises the CC accordingly.

c. Provide examples of the mechanisms employed and the groups/individuals involved in addressing inconsistencies across instructional sites in such areas as student satisfaction and student grades.

   Comparability between training sites begins with the standardized student evaluations of the clerkship and faculty. Any student issues or concerns regarding satisfaction with their educational experience are flagged by the Associate Dean of Medical Education and discussed with the clerkship director. The clerkship directors respond to any concerns highlighted and develop an action plan. Recurring concerns may be addressed more centrally by the CCC and the Vice Dean of Medical Education. In case of student dissatisfaction with their grades, the students have an option to appeal their final grade, which is reviewed as per policy (see attached grade appeal policy).

8.8 MONITORING STUDENT TIME

The medical school faculty committee responsible for the medical curriculum and the program's administration and leadership ensure the development and implementation of effective policies and procedures regarding the amount of time medical students spend in required activities, including the total number of hours medical students are required to spend in clinical and educational activities during clerkships.

NARRATIVE RESPONSE

a. Describe how policies relating to duty hours are disseminated to medical students, residents, and faculty.

The JCESOM policy on duty hours is provided to medical students during clerkship orientation and is inlcuded in their syllabi. Incoming residents and new teaching faculty are trained on these polcies during their orientation. The current policy on student duty hours was adopted from the GME and was reviwed in December 2018.

b. Describe how data on medical student duty hours are collected during the clerkship phase of the curriculum and to whom the data are reported.

The clerkship coordinators map and track student duty hours for each clerkship. Students are asked to report on their duty hours at two points during the clerkship. First at the mid-clerkship assessment meeting with the clerkship director, and finally at the end of clerkship review. These data are tracked by the clerkships and reported to the Clinical Clerkship Committee.

c. Describe the mechanisms that exist for students to report violations of duty hours policies. How and to whom can students report violations? Describe the steps that can be taken if duty hour limits are exceeded.

Duty hours on the clerkships are monitored by the clerkship coordinator and director and students may report violations to coordinators or clerkship directors. Students may also choose to report these violations to the Assistant Dean of Student or Academic Affairs. These procedures are outlined in each clerkship syllabus.

d. Describe the frequency with which the curriculum committee or its relevant subcommittee(s) monitor the clinical workload of medical students, in the context of formal policies and/or guidelines. How is the effectiveness of policies determined?

The Clinical Clerkship Committee and the CC review student workload once every two years and recommend changes to the clerkships, if warranted. The effectiveness of the policy is primarily determined by student feedback through the clerkship evaluations.

SUPPORTING DOCUMENTATION

1. The formally-approved policy relating to duty hours for medical students during the clerkship phase of the curriculum, including on-call requirements for clinical rotations.

Appendix 8.8-1 Workload and Duty Hours Policy