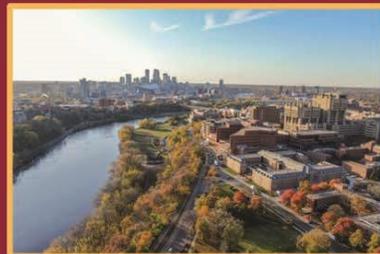
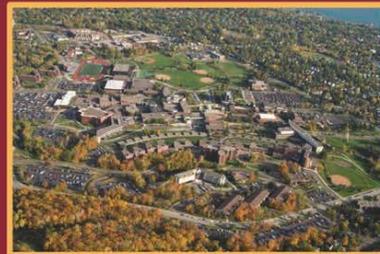


**Self-Study Summary Report
for the
Liaison Committee on Medical Education Site Visit
April 19-22, 2020**

**One School.
Two Campuses.**



MEDICAL SCHOOL | UNIVERSITY OF MINNESOTA

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Overview of the University of Minnesota Medical School

The University of Minnesota Medical School (UMMS) was founded in 1888 with 116 students admitted to three classes. The number of admitted students has grown to 240 per class across two campuses 132 years later, making UMMS one of the 10 largest allopathic medical schools in the country. UMMS is thriving. As part of the University of Minnesota (UMN), which is a land-grant institution, the UMMS is dedicated to educating its future physicians, improving the health of the state's citizens and beyond, and creating new knowledge through discovery. According to Minnesota Board of Medical Practice data, an estimated 70% of the state's physicians are trained at the UMMS in either Undergraduate Medical Education (UME), Graduate Medical Education (GME), or both.

Simultaneous goals of improving the health of Minnesotans and driving discovery are underscored by partnership and integration with the Regional Campus in Duluth, located 150 miles north of the Twin Cities. The Minnesota Legislature funded the University of Minnesota School of Medicine, Duluth, in 1969 as an independent school, with the first students matriculating in 1972. The school's mission focused on rural medicine and Native American health, resulting in the recruitment and training of students committed to a career in rural family medicine. The University of Minnesota School of Medicine, Duluth, provided the preclinical phase of medical education, after which the students matriculated to the UMMS on the Central Campus in the Twin Cities to complete their medical degree.

In 2004, the two medical schools officially merged to create one medical school with two campuses: a Central Campus in the Twin Cities and a Regional Campus in Duluth. The merger has resulted in a true illustration of the whole being greater than the sum of its parts. By utilizing the unique opportunities and resources available at both campuses, the UMMS has been able to implement a rare combination of solid commitment to developing primary care physicians to better meet the healthcare needs and demands of the state while simultaneously becoming an outstanding performer in obtaining grant funding from the National Institutes of Health (NIH) for research.

In 2010, Mullan et al¹ defined a social mission score and ranked the nation's 141 allopathic medical schools using that score. They ranked the UMMS as one of only two medical schools in the country in the top quartile for social mission, NIH funding, and graduates practicing primary care. Over the eight years since the last LCME Site Visit in 2012, the UMMS has improved the social mission metric through an active commitment to recruiting a more diverse student body. The result has been a near doubling of Underrepresented in Medicine (UIM) minority students, a result now sustained for 6 years. Current efforts to recruit a Vice Dean for Diversity, Equity, and Inclusion will further catalyze successful efforts to date.

UMMS continues to rank highly in the percentage of graduates who go on to primary care careers, and more specifically careers caring for the underserved in urban, exurban, and rural settings. In the Association of American Medical Colleges (AAMC) Mission Management Tool Report 2019, the UMMS was ranked in the 95th percentile for recent graduates training in or practicing primary care, 98th percentile for graduates practicing Family Medicine, 85th percentile for graduates practicing in rural areas, 99th percentile for graduates who identify as American Indian or Alaska Native, and 74th percentile for all organized research source grants and contracts (Appendix *MMT 2019*). According to the 2018 Blue Ridge Institute for Medical Research rankings, UMMS ranks 30 out of 150 medical schools in NIH funding awards.

Since the last LCME Site Visit in 2012, the UMMS has been actively engaged in discovery, providing a rich research environment for students. Examples of significant contributions over the past decade include the creation of specialized, state-supported medical discovery teams dedicated to biology of aging, magnetic resonance imaging, rural and American Indian health disparities (on the Regional Campus), and addiction. Since 2016, the Minnesota Legislature has appropriated over \$50 million to support these teams and recruit and support new faculty leaders.

The UMMS clinical mission has been greatly strengthened by turning challenges into opportunities as the UMMS leaders renegotiated the relationship with its primary health care partner, Fairview Health Services. These efforts resulted in the creation of M Health Fairview. The goal of the new relationship is to have synergistic effects across both organizations. Consequently, the UMMS has seen a significant infusion of capital to encourage innovation in education, clinical services delivery, and research through the M Health Academic Investment Program. Already, \$15 million has funded five clinical quality, six education, and five research projects across the UMMS missions. A second invitation for proposals was sent out in November of 2019.

Two of the education projects address issues identified during the LCME Self-Study through the Independent Student Analysis (ISA), Data Collection Instrument (DCI), or both. The development of a Master Assessor and Coach (MAC) program addresses concerns about direct observation and formative feedback in the clinical clerkships as UMMS focuses on the standardization of assessment across the clinical phase of the curriculum. The project entitled “Enhancing Physician-Scientist Training Programs (ePSTP)” addresses concerns expressed on the ISA by MD/PhD students (in the graduate phase of their program). Another improvement project supports commitment to interprofessional education. The Fairview Longitudinal Integrated Interprofessional Clerkship (FLI2C) will train nursing and medical students together in a longitudinal integrated clinical experience emphasizing interprofessional competencies and development of leadership skills. All six educational projects supported by the initial round of the Academic Investment Program align with the strategic plan for UME.

At the same time UMMS has strengthened its relationship with its primary partner, Fairview Health Services, relationships with affiliates also continue to thrive. The relationship with the Minneapolis Veteran’s Administration (VA) Health System is celebrating its 75th year, the second longest medical school-VA affiliation in the country. The UMMS affiliation with the Hennepin County Medical Center spans more than a century and with HealthPartners, several decades. Additionally, Essentia Health has been the primary health partner in Duluth since the Regional Campus was founded, and was a primary driver for the initial establishment of the Regional Campus. The UMMS community partnerships in the Rural Physicians Associate Program (RPAP) also frequently span decades, with many sites having primary preceptors who were themselves RPAP graduates.

As an example of the strength of the UMMS relationships with its affiliates, Longitudinal Integrated Clerkships (LICs) have opened at each of the three major Twin Cities affiliates over the past five years: the Minneapolis VA Health System, Hennepin Healthcare, and the HealthPartners’ Regions Hospital. These LICs move UMMS closer to its goal of individualizing the learning pathways to optimize learning. Additionally, a full complement of clinical rotations have been added at two major Regional Campus partners, Essentia Health and St. Luke’s Hospital, creating the opportunity for a cohort of students to complete their entire core clinical clerkship experience in Duluth if it fits their learning needs.

The UMMS is currently in the second year of a five-year *UME Strategic Plan*, UMMS has made major changes as well as achieved exciting results since the *Plan’s* inception. More than 500 members of the greater UMMS community contributed to development and implementation of the vision for the *UME Strategic Plan*. Faculty, students, staff, patients, and key stakeholders from across the educational spectrum, health professions, clinical sites, and the state came together to create a vision for the future of medical education at the UMMS. All are committed to achieving the UMMS vision for education, which is “A community, learning together, to prepare exceptional physicians to improve the health and well-being of Minnesota and beyond.”

Seven guiding principles have been delineated in this effort:

- Build on Diversity and Inclusion
- Empower Students
- Foster Relationships
- Optimize the Learning Environment
- Provide Evidence-based Education
- Put Patients First
- Standardize the Outcomes, Individualize the Learning Pathways

Throughout the LCME Self-Study packet are examples of the many ways in which the UMMS is trying to utilize strengths, build on successes, and address weaknesses as it strives toward the goals guided by these principles. The UMMS intends for the Executive Summary, DCI, and ISA to tell the story of a medical school built on an excellent foundation, rich with tradition, and ready to drive the necessary changes in order to lead medical education in the Twenty-First Century.

Overview of the LCME Self-Study Process

During the Spring of 2017, the LCME re-accreditation process began with the appointment of Robert Englander, MD, MPH, Associate Dean for Undergraduate Medical Education, as the Faculty Accreditation Lead. As an additional commitment to supporting the LCME Self-Study, in the fall of 2017, Dean Tolar funded a Director of Accreditation and Quality Improvement position, which was filled in January 2018. An Accreditation Project Manager position was subsequently funded in the Summer of 2018. These roles provided support for the entire LCME Self-Study process. An additional purpose for these roles has been to establish an Office of Accreditation and Continuous Quality Improvement (CQI) to enhance the infrastructure for CQI beyond the LCME Self-Study.

Based on formal and informal tracking, the LCME Self-Study process has actively engaged more than 300 members of the UMMS community across the institution. More than 75 faculty members, staff, and students have served in leadership roles through involvement in the LCME Task Force, sub-committees, the ISA, and the drafting of the DCI.

DCI Process

Beginning the work on the DCI marked the launch of the LCME Self-Study in Spring 2018. The Faculty Accreditation Lead and Director of Accreditation and Quality Improvement identified content experts to oversee the responses for each Element. More than 100 faculty members and staff were engaged in working on the DCI. Content experts utilized additional community members as needed to assist in compiling responses. The Office of Accreditation and CQI served as the primary support structure for monitoring progress, addressing questions, and disseminating content. Work on the DCI continued all throughout 2019, including updates to reflect more current data, in preparation for submitting the LCME Self-Study Package.

LCME Executive Task Force

During the Summer of 2018, with input from the Dean and Vice Dean for Education and Academic Affairs, the Faculty Accreditation Lead and Director of Accreditation and Quality Improvement identified membership for the LCME Executive Task Force. The Task Force was comprised of faculty, administration, and students representing respected leaders across the institution with evidenced commitment to, and knowledge of, the educational program. Dean Tolar and Paula Termuhlen, MD, Regional Campus Dean, served as Co-Chairs; the Faculty Accreditation Lead and Director of Accreditation and Quality Improvement provided guidance and administrative support. The LCME Task Force met regularly throughout 2019.

Sub-Committees

Based on themes in the DCI Standards, five Self-Study Sub-committees were created and charged with evaluating the designated LCME Self-Study questions for one or more Standards: (1) Standards 1, 2, and 4, (2) Standard 3, (3) Standard 5, (4) Standards 6, 7, 8 and 9, and (5) Standards 10, 11 and 12. In late Summer 2018, the LCME Executive Task Force members helped to guide the selection of individuals to form the Self-Study Sub-Committees. Faculty, staff, and students from both campuses representing a breadth of experiences across the educational program were invited to participate. Each of the five Sub-committees had two Co-Chairs, and to ensure effective communication, one Co-Chair was selected from among the members of the LCME Executive Task Force. Beginning in January 2019, Co-Chairs created working groups within their Sub-committee to address their respective questions. Sub-committees met regularly throughout the Spring of 2019 and submitted their responses to the Faculty Accreditation Lead and Director of Accreditation and Quality Improvement during the early Summer.

LCME Kick-Off

Prior to the start of the work, members of the LCME Task Force and the five Sub-committees attended an LCME Kick-Off event in Fall 2018 in conjunction with a visit from Veronica Catanese, MD, MBA, LCME Co-Secretary. This event provided those engaged in the process the opportunity to hear from LCME representatives, to learn about the LCME process including their roles, and to engage in a meaningful activity to prepare them for the work ahead.

ISA

In Summer 2018, a diverse group of medical student leaders was recruited to conduct the ISA with support from the Director of Accreditation and Quality Improvement. These students served as the core of the ISA Committee leadership. In Fall 2018 the ISA Committee leaders solicited students from across campuses and years to develop survey questions. The result was a comprehensive online survey disseminated to all students in January 2019. The ISA Committee

evaluated the results and compiled the ISA Report throughout the Spring and Summer of 2019, with completion and publication in Fall 2019.

Executive Summary

The Self-Study process culminated in the Executive Summary, which was co-authored by the Faculty Accreditation Lead and the Co-Chair of the LCME Executive Task Force and Regional Campus Dean. The Executive Summary was reviewed and edited with input from the UMMS Dean, the Vice Dean for Education and Academic Affairs, the Director of Accreditation and Quality Improvement, and members of the LCME Executive Task Force. The Faculty Accreditation Lead performed the final review.

Progress Since the LCME Site Visit 2012

In 2012, the LCME Letter granted full accreditation for eight years to UMMS with eleven cited Elements. Since the LCME Site Visit in 2012, the UMMS has put significant effort into complying with LCME Standards and continually improving its medical education program. Special emphasis has been placed on addressing cited areas of deficiency. In 2012, UMMS was “Non-Compliant” in three Elements, and “Compliant with a Need for Monitoring” in eight Elements. As a result of diligent monitoring and quality improvement efforts, only three citations remain in place at the time of the Self-Study. All Elements are now “Satisfactory with a Need for Monitoring.” (Previously the classification had been “Compliant with a Need for Monitoring.”)

Ongoing monitoring and improvement since 2012 have been achieved predominantly through the effective functioning of the UMMS’ Curriculum Committee structure. More recently, progress has also been accelerated by the creation of the previously mentioned Office of Accreditation and Quality Improvement within the Office of UME. Started concurrently with the Self-Study, this office has provided support for the accreditation process and oversees ongoing LCME monitoring and CQI. Additionally, the UMMS has seen significant growth in resources and expertise in student services, assessment, and curriculum since 2012. The development of a strong *UME Strategic Plan*, aligned with the UMMS *Strategic Vision 2025*, has also provided an excellent guidepost for how to best utilize UMMS educational resources.

The following is a summary of the UMMS’ actions to address the cited areas since the time of the LCME Letter in 2012. (The citations are identified and organized using current LCME nomenclature.)

Summary of 2012 Findings

Continuing Citations

Element 2.4 (previously IS-11): Sufficiency of Administrative Staff: At the time of the 2012 LCME Site Visit, there had been recent turnover in key leadership positions with several ongoing vacancies resulting in concerns about the UMMS’ ability to accomplish its mission. The vacant positions were filled and, since that time, more proactive search strategies have helped to ensure greater efficiency in filling positions. The result is that currently the UMMS has only two Department Chair vacancies, one on each of its campuses, with interim Chairs in both departments to ensure continuity and leadership. No current vacancies exist in Dean’s Office staffing and leadership positions.

Subsequent requests from the LCME regarding this Element focused on the effectiveness of the individuals in the roles after the positions had been filled, including accessibility and responsiveness of the Assistant Deans for Student Affairs on both campuses. Both incumbents have now been in their roles for almost seven years, and the results from the AAMC Graduation Questionnaire (AAMC GQ) 2019 reflect continued improvement in the number of students who are satisfied or very satisfied when asked generically about the UMMS Dean of Students. 2019 AAMC GQ results follow: accessibility (77.4% compared to 80.0% nationally), awareness of concerns (76.1% compared to 72.2% nationally), and responsiveness to student problems (70.5% compared to 70.3% nationally).

More impressively, when asked specifically about the individuals responsible for Student Affairs and educational oversight by both name and title on the ISA in January 2019, the results show high levels of satisfaction (ranging from 92% to 100%) for accessibility, awareness of concerns, and responsiveness to concerns across all class years and for both campuses. As part of ongoing monitoring of this Element, similar annual internal surveys mirror the high response levels

seen on the ISA 2019. On a scale of 1-5, with 5 being Very Satisfied, internal survey scores from 2015 to 2018 range from 4.2 to 4.8 in all three areas.

Based on the above, the UMMS is confident in the sufficiency of its current administrative staff. The current status of this Element is “Satisfactory with a Need for Monitoring.”

Element 9.5 (previously ED-32): Narrative Assessment: During the 2012 LCME Site Visit, as only one preclinical course on the Central Campus had any narrative component of its assessment, the UMMS was cited for insufficient narrative assessment in the preclinical phase. Despite efforts to increase narrative assessment in the preclinical curriculum, internal measures through 2016 also showed student satisfaction below desired levels with both the availability and usefulness of narrative assessment for both Years 1 and 2 on the Central Campus and for Year 1 on the Regional Campus. As a result, student focus groups were held in 2016 to better understand students’ expectations around the provision of narrative assessment. Feedback indicated that a longitudinal relationship with a facilitator was critical to the usefulness of the feedback. Students also provided insights into how to increase their access to the narrative assessment. As a result, narrative assessment was expanded and placed strategically across the preclinical phase in courses where it would have the highest likelihood of impact. The Central Campus has expanded the inclusion of narrative assessment (both formative and summative) to multiple courses across Years 1 and 2. The Regional Campus has narrative assessment in all of its courses. In addition, the Office of Assessment and Evaluation has conducted a number of faculty development sessions designed to improve the use and content of narrative assessments.

Following these changes, the internal survey results from 2016-19 show a large linear and positive change in student satisfaction with both the availability and usefulness of narrative assessment. Currently, the status of this Element is “Satisfactory with a Need for Monitoring.”

Element 9.8 (previously, ED-30): Timeliness of Grades: At the time of the 2012 LCME Site Visit, three clinical departments (Family Medicine and Community Health, Neurology, and Orthopedic Surgery) were, on average, exceeding the six-week requirement for submitting grades. In addition, the UMMS’ own established four-week expectation for grade submission was not being met. Significant process improvements have been implemented since then to address the need for timely grades, most within the previous two years as a result of a new Registrar. These include monitoring of grades by the Associate Dean for UME with immediate feedback to the Clerkship Director and Clerkship Coordinator for late grades and improved communication between the Registrar and the Clerkship Coordinators to proactively improve processes to ensure compliance with the six-week submission requirement.

As a result, the UMMS has seen dramatic improvement in the timeliness of Clerkship grades. During Academic Year 2016-17, out of >2000 grades/year, 65 had been submitted beyond the six-week timeframe. The number dropped to 55 in Academic Year 2017-18, and only 5 in Academic Year 2018-19. Ongoing efforts will continue to explore ways to maintain, and improve upon, this success. Currently, the status of this Element is “Satisfactory with a Need for Monitoring.”

Resolved Citations

Element 1.4 (previously ER-9): Affiliation Agreements: Because of the wide distribution of clinical sites, the UMMS maintains a large number of affiliation agreements. At the time of the 2012 LCME Site Visit, a significant number of agreements lacked language specifying the responsibility for treatment and follow up in the event a medical student is exposed to infectious or environmental hazards. Standard language was added to the UMMS affiliation agreement template to cover this deficiency. If a clinical site requires its own affiliation agreement, language regarding UMMS requirements, including those of the LCME, are added as needed before the agreement is fully executed. As of 2014, the LCME determined this Element to be “Satisfactory.”

Element 3.5 (previously MS-31-A): Learning Environment: At the time of the 2012 LCME Site Visit, the team noted that the UMMS relied heavily on student reporting of concerns about the learning environment. In its following Status Report to the LCME, the UMMS described the creation of the Learning Environment Rounds (LER). The LER program selects clinical sites based on data from student evaluations and conducts structured site visits at major clinical affiliates. These visits assess various aspects of the experience that can impact the development of professional attributes. Summary

findings are reported to the central administration, curriculum committees, and clinical affiliate sites in order for improvement efforts to take place. Since 2017 there have been nine LER site visits to teaching hospitals covering 18 clerkships. In addition, student evaluations of their clinical experiences include specific questions on role modeling and mistreatment that allows the curriculum committees and central administration to monitor and address sites with deficiencies. As of 2014, the LCME determined this Element to be “Satisfactory.”

Element 4.1 (previously FA-2): Sufficiency of Faculty: Because of its smaller size, integrated curriculum, and faculty complement on the Regional Campus, the site visit team noted a higher potential for faculty retirements or attrition to become a critical issue in meeting its teaching needs. This issue was addressed through several approaches that included increasing the total number of teaching faculty in order to reduce the impact of any single faculty member on the curriculum as well as increasing faculty development efforts designed to improve retention and satisfaction. To minimize the risk associated with faculty availability, through the efforts of the Regional Campus Dean, the Regional Campus has continued to build in safeguards. This includes stronger utilization of the two local major hospital systems as sources of content experts as well as annual reviews of teaching needs between the Regional Campus Dean and the UMMS Dean to proactively address planned gaps. As of 2015, the LCME determined this Element to be “Satisfactory.”

Element 4.5 (previously FA-11): Faculty Professional Development: Faculty professional development opportunities in place at the time of the 2012 LCME Site Visit were available but lacked emphasis on topics related to the realities of work-life balance and complex schedules important to junior faculty. The UMMS addressed the issue through several efforts. Based on a needs assessment of junior faculty conducted by the Office of Faculty Affairs (OFA), OFA expanded their existing bi-monthly faculty orientations and then offered the orientations at a variety of times and locations, including asynchronously. The OFA also made grants available to departments to initiate their own mentoring and development opportunities. Since this time, opportunities for faculty development have continued to improve including through expanded programs such as the Medical Education Development and Scholarship (MEDS) Program and the increased availability of online and asynchronous resources. As of 2014, the LCME determined this Element to be “Satisfactory.”

Element 5.11 (previously MS-37): Facilities: The 2011 AAMC GQ indicated that only 63% of UMMS students were satisfied with study space compared to 78% nationally. Additionally, only 46% of UMMS students were satisfied with relaxation space compared to 67% nationally. At the time of the 2012 LCME Site Visit, the team noted that students acknowledged the existence of problems with study and relaxation space on the Central Campus and that they were aware that “efforts were being made to improve these situations.”

A number of immediate and longer-term efforts were undertaken to improve student satisfaction with study and relaxation space on the Central Campus. Funding was approved to renovate and upgrade existing spaces. Most significantly, the UMMS Dean made a presentation to the Minnesota Legislature to secure \$100 million for the construction of a new 200,000 square foot Academic Health interprofessional education center. This funding was subsequently approved and full occupancy of the new Health Sciences Education Center (HSEC), is expected for Academic Year 2020-2021. Consequently, as of 2015 the LCME determined this Element to be “Satisfactory.”

Results from both the AAMC GQ 2019 and the ISA continue to highlight the importance of educational, study, and relaxation space. In spite of attempts to improve existing facilities, student satisfaction in these areas has continued to decrease on both campuses. The AAMC GQ 2019 shows satisfaction with study space and relaxation space has declined to its lowest levels (33.9% and 23.4%, respectively). Satisfaction levels from the ISA align with the AAMC GQ 2019 results on both campuses. On the Regional Campus, considerable resources have been allocated to augment study and relaxation space and improve the educational spaces. Much of the renovation will occur this Summer (2020). On the Central Campus, the new HSEC will provide state-of-the-art facilities. Once the HSEC opens and the Regional Campus renovations are complete in the Fall of this year, student use and satisfaction will be monitored regularly to identify and address any outstanding concerns.

Element 6.3 (previously ED-5-A): Curricular Outcomes: At the time of the last LCME Site Visit in 2012, significant recent changes to the curriculum limited the UMMS’ ability to demonstrate effective outcomes. The 2013 LCME status update included student satisfaction data, including with independent learning time (ILT), active learning, and USMLE

pass rates and scores. As a result of the demonstrated outcomes, as of 2014 LCME determined this Element to be “Satisfactory.”

Over the past five years, the UMMS has continued its efforts toward improvement of the quality and quantity of active learning experiences. Curriculum subcommittees on both the Central and Regional Campuses have worked closely with the UMN’s Center for Educational Innovation (CEI) to provide training for faculty in active learning strategies as well as for individual faculty members to identify specific active learning strategies to use in their courses. The UMMS has experienced a decline in lectures in total and as a percentage of instructional methods implemented during the preclinical phase of education.

ISA results on workload and active learning during the preclinical phase are somewhat mixed for Year 1, as Year 1 students reported high satisfaction on the Regional Campus with modest satisfaction on the Central Campus. The encouraging finding is that the Year 1 students who responded to the ISA in Academic Year 2018-2019 reported considerably higher satisfaction rates (satisfied or very satisfied) with the amount of active learning than the Year 2 students, who represent the previous class (74% versus 59%, respectively). This data suggests a positive change in response to the recent efforts to improve the Year 1 experience, including increasing active learning. Student-reported satisfaction rates with workload and active learning are reasonable in Year 2 on both campuses (workload- 89% of Central Campus and 79% of Regional Campus Year 2 students satisfied or very satisfied; active learning- 88% of Central Campus and 95% of Regional Campus students satisfied or highly satisfied).

Element 8.3 (previously ED-37): Learning Management System: At the time of the 2012 LCME Site Visit, the Central Campus was in the process of transitioning to using Blackbag, a learning management system (LMS) developed and already in use on the Regional Campus. The 2012 Site Visit team noted that its implementation was not yet fully operational on the Central Campus. By 2015, the system had been fully integrated, allowing for consistency in reporting and mapping across both campuses. As of 2016, LCME determined this Element to be “Satisfactory.”

In an effort to provide more robust functionality and a more supported enterprise-wide platform, the Central and Regional Campuses have more recently transitioned to Canvas® to serve as the primary LMS. Blackbag will continue to be used for its curriculum mapping functions with the intent to transition to another enterprise solution, MedHub®, during Academic Year 2020-21. In parallel with the transition to Canvas®, a custom-built curriculum search tool was developed by the Health Sciences Technology (HST) team. The HST-built tool queries the curriculum database for both campuses across academic years and allows faculty and administrative staff to monitor curriculum content more effectively than Blackbag’s tool.

Element 12.1 (previously MS-24): Student Debt: At the time of the 2012 LCME Site Visit, student debt for UMMS graduates was the fourth highest in the nation among public medical schools. The UMMS also provided only a modest amount of financial aid and demonstrated suboptimal success with efforts to increase scholarship funds. Four measures were taken to address the issue: (1) approving a tuition freeze, which remained in place from 2014 through 2018, (2) continuing UMN advocacy to raise scholarship funds, (3) accessing nearly two-thirds of the \$47 million already raised since 2008 for scholarships, and (4) improving utilization of the UMN’s scholarship tracking tool. As a result, students graduating with \$250K or more in debt decreased from 8% in Fiscal Year 2012-13 to 3.5% in Fiscal Year 2013-14. Concurrently, grant and scholarship amounts have gone from \$5,560,766 in 2013-14 to \$7,983,704 in 2018-19, a 40% total increase in aid. As a result of these many efforts, the AAMC *Tuition and Student Fees Report* ranks UMMS 38th of 90 for public medical school resident tuition rates. Additionally, the *LCME Part I-B Student Financial Aid Questionnaire* shows the average medical school debt of indebted graduates and resident and non-resident tuition and fees for first-year students are all below the national average. As of 2015, the LCME determined this Element to be “Satisfactory.”

Self-Study Response

Standard 1: Mission, Planning, Organization, and Integrity

Strategic Planning

In January 2013, the UMMS completed a faculty-driven strategic planning process that created *Strategic Vision 2025*, a 10-year plan that identified key initiatives, objectives, timelines, and metrics of excellence in service to the UMMS missions of education, research, and clinical care. Following the arrival of Brooks Jackson, MD, MBA, a new Dean of the Medical School, the goals and priorities of *Strategic Vision 2025* were originally updated in July 2014. Both the original *Strategic Vision 2025* as well as the revised *July 2014 Goals and Priorities* are monitored annually. For the past two years the focus of the monitoring has been on the reorganization of University of Minnesota Physicians (UMP), which is the multi-specialty group practice for the UMMS faculty, and the joint clinical enterprise, M Health Fairview.

Monitoring of the *Strategic Vision 2025* is overseen by the Dean of the Medical School. The Dean receives regular reports from the Dean's Office leaders in the areas of research, clinical affairs, and education. Departmental leaders are held accountable through a dashboard with metrics in the domains of education, research, and clinical care. The metrics are derived from elements of *Strategic Vision 2025*.

A *strategic* plan specifically developed for Undergraduate Medical Education (UME) was approved in 2018 by the Education Council, the UMMS governing curriculum oversight committee. The *UME Strategic Plan* is aligned with the education mission of *Strategic Vision 2025*. Over 500 stakeholders, including patients and members of the community, participated in the *UME Strategic Plan* process to develop the vision, guiding principles, and five-year goals for medical education at the UMMS.

Continuous Quality Improvement

Since the last LCME Site Visit in 2012, the UMMS has monitored its compliance with accreditation standards through the Education Council and the Office of Medical Education (OME). While effective monitoring had already been in place, the UMMS decided to implement additional rigor and tracking. As previously discussed, the Office and Director of Accreditation and Continuous Quality Improvement was established in 2018 as part of the LCME Self-Study process, and has also provided a systematic tracking framework for LCME Standards and Elements on a regular basis. A Continuous Quality Improvement Steering Committee and the Work Group both comprised of faculty and key staff have been charged with oversight of the process.

Conflict of Interest Policies

The UMMS participates in the University Conflict of Interest Program provided by the UMN Office of Institutional Compliance. This online program requires annual submission of a Report of External Professional Activities (REPA) and provides resources for conflict of interest (COI) policies and methods of resolving conflict. Upon hiring, all faculty are required to take the COI Educational Course. One strength the Self-Study process identified is that the COI policies and training are targeted for affected groups to provide focused training according to an individual's status and role within the organization. Oversight of compliance with training and recording of REPA reports resides within the Dean's Office and is delegated to Department Chairs for action. COI practices are also enforced within the Office of Admissions, scholastic standing committees, and advising structures to prevent conflicts that might otherwise arise in those areas.

Mechanisms for Faculty Participation

Governance related to direct faculty involvement in decision-making in the medical education program is detailed in the *Bylaws to the Constitution of the UMMS*. Many standing committees allow for direct faculty participation. Examples include the Oversight Committee on Admissions; the campus-based Admissions Committees; the Diversity, Inclusion, and Equity Committee; the Department Heads Council; the Education Council; the curriculum subcommittees; the campus-based student scholastic standing committees; and the Research Council. Members of standing committees are determined by a mix of appointments by the Dean, election by the faculty, and appointments assigned based on role. The UMMS Faculty Assembly and the Faculty Advisory Council (FAC) provide a global formal opportunity for the Dean to

receive direct faculty feedback. Informal opportunities for participation include campus-based or UMMS-wide town halls, task forces, regular email communications requesting feedback on policies and procedures, and participation in departmentally based meetings.

Affiliation Agreements

The UMMS has complete, up-to-date, and standardized affiliation agreements with all of its clinical partners. The affiliation agreements contain the language outlined in *Element 1.4* and conform to LCME recommendations for such agreements after revision following the last LCME Site Visit in 2012, as noted in the “resolved citations” section above on *Element 1.4* (ER-9).

Bylaws

Current *Constitution* and *Bylaws to the Constitution of the UMMS* are in place to provide the committee structure for successful curricular improvement and oversight. The LCME Self-Study process identified a need for revision of the current *Constitution* and *Bylaws to the Constitution of the UMMS* to reflect more contemporary practice. The FAC undertook a process to rewrite the documents to provide more clarity and structure regarding faculty governance and leadership responsibilities. A Constitution and Bylaws Committee has been formed to review the recommendations, vet them with key stakeholders, and make final recommendations to the Dean. A UMMS Faculty Assembly vote is required to adopt the new *Constitution* and *Bylaws to the Constitution of the UMMS*, and is tentatively scheduled for Fall 2020. The current version is available to all faculty on accessible websites.

Eligibility Requirements

The UMN is accredited by the Higher Learning Commission to offer degrees. The last accreditation visit was in 2015 with no concerns or future reporting requirements. The UMN has been continuously accredited since 1913. The next visit is anticipated in 2025-2026.

Standard 2: Leadership and Administration

Administrative Officer and Faculty Appointments

The UMN Board of Regents grants indefinite tenure, continuous appointments, and titles of faculty emeritus. The Board of Regents delegates authority to appoint the UMMS Dean to the Executive Vice President and Provost of the University subject to Board of Regents approval. The Dean of the UMMS has been given authority by the Board of Regents to appoint non-tenured faculty with final approval by the Board of Regents. This authority is clearly defined and strictly followed.

Dean’s Qualifications

Dean Jakub Tolar, MD, PhD, became UMMS Dean and Vice President of the Office of Academic Clinical Affairs in October 2017. In addition, Dean Tolar serves as co-leader for the M Health Fairview joint clinical enterprise between the UMMS, UMP, and Fairview Health Services. In his role as UMMS Dean he has ultimate responsibility for all of its missions.

Dr. Tolar received his MD degree from Charles University in Prague. He completed his PhD in Molecular, Cellular, Developmental Biology and Genetics at the UMN. He is a Board Certified practicing pediatric hematology/oncology physician and an internationally recognized leader in stem cell biology. He is principal investigator on multiple NIH grants, holds four patents, and has contributed to over 210 publications.

Immediately prior to being appointed Dean of the UMMS and Vice President of the Office of Academic Clinical Affairs, he served as Executive Vice Dean of the UMMS with responsibility for the operations and clinical performance of all UMMS clinical departments. He was also the Director of the UMN Stem Cell Institute, overseeing 50 investigators from 25 departments across the UMN. He has had extensive success as a clinician, a researcher, an educator, and a leader.

Access and Authority of the Dean

In the role of Dean of UMMS and Vice President for Academic Clinical Affairs, the Dean reports directly to the UMN President. The Dean serves on the President’s Cabinet, the President’s Senior Leadership Team, and the Budget 5 Group, which develops the overall budget for the entire university. The Dean has one-on-one meetings with the President biweekly and as needed. For academic issues, the Dean reports to the UMN Executive Vice President and Provost. The

Dean meets regularly with the Provost on issues such as promotion and tenure and new educational programs. As co-leader of M Health Fairview, the UMMS Dean meets with the CEO of Fairview Health Services weekly. As Chair of the Board of Directors of UMP, the practice group of UMMS, the Dean meets at least quarterly with the Board about issues pertaining to governance and management oversight.

As the Chief Academic Officer (CAO) for the UMMS, the Dean has authority and responsibility for all aspects of its medical education program, including both the Central and Regional Campuses. The Dean delegates the OME to administer and manage the operational elements, programming, and strategy for the medical education program. The Vice Dean for Medical Education and Academic Affairs reports directly to the Dean and serves as Director of the OME. The Dean has regular senior leadership meetings where educational updates are discussed. These leadership meetings include the Vice Dean for Education and Academic Affairs, the Regional Campus Dean, the Associate Dean for Faculty Affairs, the Chief Financial Officer, and others. The Dean meets monthly with the Vice Dean for Education and Academic Affairs and receives regular updates regarding current issues and action items from the Education Council (curriculum committee). Summary reports, including the annual *State of Undergraduate Medical Education Report*, are also provided to the Dean for review and comment.

Sufficiency of Administrative Staff

Sufficient administrative staff and Department Chairs exist to fulfill the missions of UMMS in partnership with the Dean. Currently, all administrative Dean's office roles are filled and constitute the senior leadership team.

In addition to the Dean's senior leadership team, the UMMS has a Chair for each of the 27 clinical and basic science Departments, including two new Departments created on the Regional Campus in 2017. Two Department Chair positions are currently in recruitment: Urology and Biomedical Sciences. The Urology Chair vacancy is due to the promotion of the Chair to initially lead UMP and subsequently be appointed Associate Dean for Innovation. The Biomedical Sciences vacancy represents one of the newly configured Departments on the Regional Campus with a finalist candidate under recruitment. Open Chair positions are filled on an interim basis during the transition by capable faculty members to provide stability to the Department.

Through a Diversity and Inclusion Expert Panel, the faculty recommended that UMMS would benefit from having a formal leadership position dedicated to diversity, equity, and inclusion. Self-Study has confirmed this need. A search is currently underway to identify and appoint a Vice Dean for Diversity, Equity, and Inclusion who will report directly to the Dean of the UMMS.

Responsibility of the Dean for the Regional Campus

The Dean of UMMS is the CAO and is responsible for the medical student education program on the Central and Regional Campuses. The Regional Campus Dean is the principal academic officer on the Regional Campus and reports directly to the UMMS Dean. The Regional Campus Dean is a member of the UMMS Dean's Senior Leadership Team and participates in team meetings. Additionally, the Regional Campus Dean meets bimonthly with the UMMS Dean to discuss adequacy of faculty and resources related to providing the educational program. The UMMS Dean comes to the Regional Campus regularly to personally meet with faculty, staff, and students as well as to hold open forums for direct communication.

The Regional Campus has a leadership team that locally provides operational oversight over curriculum, assessment, admissions, as well as student and faculty experience. The Regional Campus leadership team reports to the Regional Campus Dean. Members of this leadership team also participate on the centrally managed oversight committees that are related to the educational program, such as the Executive Admissions Committee and the Education Council.

Functional Integration of the Faculty Across Campuses

The Regional Campus has two departments with Department Chairs who report directly to the Dean of the UMMS. All UMMS faculty have the same rights, privileges, benefits, and support, regardless of geographic campus location. Faculty on the Regional Campus participate in cross-campus search committees for tenured faculty and leadership; UMMS committees pertaining to education, research, and promotion and tenure; and the Faculty Assembly. Both Department Heads and the Regional Campus Dean are members of the Department Heads Council. Remote access for all UMMS meetings is made available to Regional Campus faculty via teleconferencing or in person with financial support available for travel.

Associate and Assistant Deans on the Regional Campus are integrated into committees and operations pertaining to the medical education program. For example, the Associate Dean of Student Life and Academic Affairs and the Assistant Dean for Curriculum and Assessment on the Regional Campus attend the weekly OME meeting. Office of Student Affairs leaders from both campuses meet weekly one-on-one and leaders of the Office of Curriculum from both campuses meet biweekly one-on-one. The Associate Dean of UME for UMMS comes to the Regional Campus monthly to meet with faculty and students. A Regional Campus liaison for the OFA reports to the Associate Dean of Faculty Affairs for UMMS, and they meet every two weeks. In addition, the Associate Dean for Faculty Affairs provides either on-site or teleconferencing appointments to support the Regional Campus faculty every other month and as needed.

The *Constitution and Bylaws to the Constitution of the UMMS* specifically require appointments of Regional Campus faculty to key committees such as the Education Council, Faculty Assembly, Research Council, Department Heads Council, and Admissions Executive Committee.

Standard 3: Academic and Learning Environments

Resident Participation in Medical Student Education

Medical students have the opportunity to work closely with residents in the required clerkships and in many of the LICs. Each of the sites where the majority of the required block clerkships take place are teaching hospitals with residents. The Rural Physician Associates Program (RPAP) LIC students engage with residents during the core internal medicine rotation prior to rural placement and in many instances have additional exposure to residents at their clerkship site and/or during Year 4.

Community of Scholars/Research Opportunities

The UMN Driven to Discover[®] brand exemplifies how scholarship and research are integral to the mission of the UMMS. The Year 1 and Year 2 curriculum on both campuses is structured to build critical thinking skills inherent in research. Multiple programs exist to support medical student research on both campuses in concentrated fashion during the break between Years 1 and 2 and longitudinally throughout the entire program. Student-specific presentation forums have been created to highlight student research. The ISA demonstrates high levels of satisfaction in access to research opportunities with faculty across campuses. Students are required to complete a scholarly project in rural community assessment on the Regional Campus through the Rural Medicine Scholars Program (RMSP) or in community service, population health/health policy, or quality improvement/patient safety on the Central Campus. The UMMS Self-Study has recognized the 2019 AAMC GQ demonstrated a lower level of student research participation than the national average (66.5% of UMMS students and 80.9% of students nationally report engaging in a research project with a faculty member). Yet, the community-based research is nearly twice that of the national average (57.7% of UMMS students versus 32.7% of students nationally report participating in a community-based research project). Thus, the overall participation in research is likely at or above the national average.

Diversity/Pipeline Programs and Partnerships

The UMMS has a number of programs to promote diversity among its students, faculty, and staff. These programs have contributed to the diversity of the UMMS and to the diversity of the broader national applicant pool. Pipeline programs to recruit and admit UIM individuals exist on both campuses and have contributed to successfully increasing the diversity of the student body. In particular, the UMMS is recognized as second in the nation for training American Indian/Alaska Native (AI/AN) physicians and, in 2019, matriculated its largest number of AI/AN students in its history.² During the Self-Study, the UMMS recognized a desire for a deeper commitment to faculty and administrative leadership diversity. Toward that end, the original Diversity and Inclusion Expert Panel has now been incorporated into a standing Diversity, Inclusion, and Equity Committee. Additionally, as noted earlier, the search for a Vice Dean for Diversity, Equity, and Inclusion is underway. The Vice Dean will report directly to the UMMS Dean and will work with the Diversity, Inclusion, and Equity Committee for institutional development and support of best practices to facilitate improvement in this area. The UMMS also promulgates a diversity statement and policy that provides a clear vision and set of expectations for recruiting and retaining diverse students, faculty and administrative leadership.

Anti-Discrimination Policy

Information on the UMMS anti-discrimination policies, including details for reporting incidents, is available to all on the UMMS website. Special attention and training is provided to Year 2 students prior to their entry into the clinical

environment to prepare and remind them of the resources available and the expectations of anti-discrimination at all levels of engagement.

Learning Environment/Professionalism

The medical education program sufficiently and appropriately includes education and assessment related to the professional behaviors that students are expected to follow. Evaluation of professional attributes are included in course evaluations, and professional attributes are included in the school competencies for graduation. Expectations of professional behavior are listed on the UMMS website, which is accessible to faculty, residents, and students.

Learning environment rounds were instituted after the 2012 LCME Site Visit. The Associate Dean for Undergraduate Medical Education and the Learning Environment Rounds Director oversees regular learning environment rounds visits to major teaching sites for direct observation of the student experience. As the Learning Environment Rounds Director retired in summer 2019, UMMS is currently actively recruiting a replacement.

A centralized anonymous reporting system, UReport, allows anyone to provide feedback about the learning environment. If concerns are related to Title IX they are handled by the UMN Office of Equal Opportunity and Affirmative Action, while those not related to Title IX are handled by the UMMS Mistreatment and Harassment Oversight Team comprised of the two campuses' Student Affairs Deans and the Director of the Office of Minority and Diversity Affairs. Collated data is reviewed annually for trends and opportunities for action. For Title IX violations, the UMN requires all faculty, students, and staff to undergo training. Title IX reporting mechanisms are reviewed with all institutional members regularly. Each campus has a specific Title IX officer to whom reporting must occur.

Student Mistreatment

Reducing mistreatment is a primary goal of the UMMS and of the greater UMN. Efforts to do so have included the following: (1) increasing the training on both recognizing and reporting mistreatment in orientations to all phases of the student curriculum, (2) making reporting easier with links on student websites, (3) revising the mistreatment policy to provide clarity on the reporting process, (4) adding the ability to report mistreatment to the feedback mechanism for all courses in the preclinical curriculum, (5) adding a question to the Core Clerkship evaluation on mistreatment, and (6) mandatory online training in sexual harassment for faculty and staff.

UMMS students report a high awareness of the mistreatment policy on both the AAMC GQ and the ISA. Awareness and adequacy of the mechanisms for reporting have been improving significantly year-over-year as represented on the ISA (with 98% to 99% of Year 1 students satisfied or very satisfied with the mechanism for reporting).

The 2019 AAMC GQ data demonstrate that the UMMS has a higher than the national average of reported mistreatment related to students *being subjected to offensive, sexist/racist remarks* and having been *denied opportunities for training or rewards based on gender*, although with some improvement since 2018. Reporting of mistreatment through formal means is low. This UMN-wide area of concern has gotten the attention of the new UMN President. The UMMS Dean has tasked the OME to develop a better understanding of the actual cases of mistreatment, particularly related to the area of sexism, as well as the causes for the low reporting. Toward that end, two *UME Strategic Plan* goals (“build on diversity and inclusion” and “optimize the learning environment”) both have mistreatment-related objectives for the current academic year that are aimed at better understanding the student experience of mistreatment and increasing reporting.

Standard 4: Faculty Preparation, Productivity, Participation, and Policies

Sufficiency of Faculty

Over 2000 UMMS faculty provide the educational resources necessary to deliver the curriculum to medical students across both campuses. The UMMS has developed a Collegiate Personnel Plan to ensure that academic positions meet the needs of both campuses in all of its missions through 2022. The expected annual faculty attrition rate is 4% across both campuses. Based on the 2012 LCME Report, the Regional Campus developed an annual process to assess the sufficiency of faculty to deliver the curriculum. When gaps are identified, a hiring plan is formulated to recruit appropriate content experts. Since 2015, over 15 additional faculty have been hired to meet the curricular needs of the Regional Campus.

Scholarly Productivity

As a research-intensive medical school, the scholarly productivity of the faculty is outstanding by all metrics. Participation in scholarship is expected of all faculty members, with the extent differing based on faculty focus and track. During their annual review, each faculty member is assessed for scholarly productivity, and Department Chairs collate activities into an annual report that is shared with the UMMS Dean. Faculty who are tenured or on the tenure-track are expected to show a continuous record of publication of original research and to obtain extramural funding. Faculty who are on the Academic Track, one of the non-tenured tracks, are expected to regularly publish in peer-reviewed journals, contribute to book chapters, and develop enduring educational materials. Additionally, the Regional Campus has had a national leadership role in scholarship through the recent development and publication of the *Journal of Regional Medical Campuses* in partnership with the UMN Libraries. This online publication provides a venue for regional campuses in North America to share their research and perspectives that originate on a regional campus.

Faculty Appointment Policies and Procedures

The policies and procedures for faculty appointment, promotion, granting of tenure (if applicable), and dismissal appear to be adequately understood by faculty and are followed. On an annual basis, faculty review their responsibilities with department leadership. New faculty have an *Appointment Offer Letter* that outlines the terms of employment, proposed academic track and rank, salary, clinical compensation (if applicable), and description of responsibilities. Requirements for licensure or clinical credentialing are included as applicable.

Three tracks are available to faculty outlined online on the UMMS Office of Faculty Affairs website: the Tenure Track, the Academic Track, and the Master Clinician Track. Faculty on the Tenure Track are reviewed annually by a departmental committee for progression toward promotion and tenure. A decision regarding tenure is made typically at the time of promotion from Assistant to Associate Professor. Faculty may be reassigned to one of the non-tenure tracks if appropriate after discussion with the faculty member, Department Chair, and UMMS Dean. Non-tenure track faculty on renewable contracts are reviewed annually for progress toward promotion. All faculty may transfer tracks if agreed upon by their Department Chair in accordance with the *Appointment Track Transfer Policy*. Annually contracted faculty are considered renewed unless they receive a non-renewal letter.

Feedback to Faculty

The UMMS has adequate policies and procedures related to the provision of feedback to faculty about their performance and progress toward promotion and tenure (if relevant). Participation in annual review with their Department Head (or designee) is an expectation of all regular and term faculty members (ie, non-adjunct). The annual review process is consistent for all departments of the UMMS.

During the annual review, progress toward promotion and tenure (if applicable) is noted in each of the research, teaching, and service sections based on the faculty member's rank and track. Department Heads and faculty members mutually agree upon any areas of improvement, a plan for progress in the next year, and specific metrics that faculty members should work toward in the following year.

Departmental compensation plans are on a different timeline (set during late Summer and early Fall). Therefore, remuneration may not be discussed during the annual review process. Faculty members receive a letter from their Department Head outlining their compensation when it is known.

For faculty who may be identified as having opportunities for improvement in teaching, a more centralized process to improve performance is desired that goes beyond department level interventions and focuses on individual needs.

Faculty Professional Development

On both campuses, faculty have substantial access to participate in professional development to enhance their teaching and research skills and discipline knowledge. A mix of internal programming and nationally recognized programs are made available to all and advertised via email and the Office of Faculty Affairs (OFA) website. When on-site attendance at workshops or seminars is unavailable, telecommunication tools and recordings for asynchronous delivery are available. Each department manages discipline-specific and other professional development funding. The OFA and the Center for Women in Medicine and Science (CWIMS) have funding available for attendance at national conferences.

Early career faculty have specific resources that have been developed since the last LCME Site Visit in 2012 to enhance grant-writing and publication skills. These workshops and programs have been created internally by senior experts within the UMMS to provide real-time support for early career faculty. Networking and mentoring programs provide additional support and are available to faculty on both campuses, regardless of track.

To enhance teaching skills of the faculty, the OME has appointed individuals to provide skill-building services in instructional design, academic technology, assessment, course management, and use of technology in educational program delivery. The Medical Educator Development and Scholarship (MEDS) Program provides individual consultations, workshops, and a monthly research-in-progress conference to develop the teaching and assessment skills of faculty and to facilitate faculty participation in educational scholarship. The Medical Education Outcomes Center (MEOC) centralizes and facilitates the use of medical education and other data sources. MEOC also has a user-friendly data request framework and expertise to support faculty projects. Annually, a *Best Practices Day in Health Professions Education* is made available to all education faculty, staff, and students.

Responsibility for Educational Program Policies

The UMMS Dean presides over the Faculty Assembly, which consists of all UMMS faculty members. The Faculty Assembly is responsible for all academic affairs and internal policies governed by the UMMS. This structure allows all faculty to have the opportunity to participate in governance processes and educational policies. A standing committee of the Faculty Assembly located on the Regional Campus focuses on local governance and policies. The Faculty Advisory Committee of the Faculty Assembly works directly with the Dean to help share information and to collaboratively develop areas of prioritization. For further input, major initiatives are vetted through the Council of Department Heads, comprised of senior administration and all Department Chairs.

Standard 5: Educational Resources and Infrastructure

Adequacy of Financial Resources

The various sources of financial support for the UMMS are adequate and sustainable. Total revenue has increased with a positive operating margin in four of the last five years with a cumulative margin of \$119,998,000 (avg 2.35%) over those five years. The UMMS does not have external debt or debt service. All debt is held at the UMN level. The UMMS-allocated share of debt service (approx. \$8 million) has not changed in the past five years. UMMS reserves have increased from \$155 million in 2013 to \$254 million at the end of the Fiscal Year 2018. The balance among revenue sources remains stable. The UMMS deliberately held tuition and fees flat for five years (2014-2018) as a means to address student debt, with only small increases over the past two academic years.

Dean's Authority/Resources

The Dean of UMMS, as the CAO, has sufficient financial and personnel resources available and retains appropriate authority over those resources for planning, implementing, and evaluating the medical education program. The OME is provided with an annual budget allocation (approx. \$8 million) to support operations for pipeline programs, admissions, UME, GME, and continuing medical education. Additionally, 35% of tuition revenue is directly allocated to departments for faculty involvement in educating UMMS students. The Regional Campus receives 100% of its matriculated student tuition revenue to support its educational programming.

Pressures for Self-Financing

Finances of the UMMS are strong. The clinical enterprise is able to provide funds that support education and research. The patient care revenues as a percentage of total UMMS revenues are aligned with national benchmarks. The agreement recently signed by UMMS with its primary health system partner commits additional funding for academic purposes. Prior to the new agreement, which was effective on January 1, 2019, the UMMS received approximately \$37 million annually in academic support from the clinical enterprise. In Fiscal Year 2018-19 the amount increased to \$78 million and should reach \$90 million by 2022.

Decisions regarding class size are made based on physician workforce needs in the state of Minnesota and the resources available for the educational program. Because tuition and fee revenue constitute less than 5% of total annual revenues, recent minimal increases in class size on both campuses did not impact the overall financial health of UMMS. Educational effort of faculty is protected by a separate and independent allocation of tuition dollars. This financial structure ensures

the quality of the medical education program is not compromised by pressure to use administration or teaching time to generate clinical or research funding.

Sufficiency of Facilities for Education and Research Missions

The ISA, AAMC GQ, and LCME 2012 Site Visit findings have indicated that facility upgrades are needed in order to ensure a sound learning environment. While adequate classroom and small group learning spaces are available, they require updating and, on the Central Campus, these spaces are geographically dispersed. On both campuses, the current footprint limits further expansion as well as development of facilities consistent with more contemporary learning models. In response to the growing demands for active learning and simulation classroom space, relaxation space, and study space, on the Central Campus the new Health Sciences Education Center (HSEC) will open in Summer 2020. Given that HSEC has more than 200,000 square feet of space, the UMMS anticipates the facility will adequately address significant areas of need regarding facilities. On the Regional Campus, a major classroom renovation will begin in April 2020 with a similar vision to provide a more contemporary and technologically advanced learning space as well as to add additional rooms for small group learning.

Research space is assigned to individual departments, institutes, or centers within the UMMS. Challenges in research space assignment necessitated a new vision for laboratory space assignment. This resulted in the *Policy on Laboratory Space Occupancy and Assignment*, implemented in March 2018, which is aligned with the Research Strategy outlined in the *Strategic Vision 2025*. Policy oversight and implementation is managed by the UMMS Space Committee. Currently, the UMMS has adequate space to fulfill its research mission; efforts toward space reallocation are expected to create opportunities to identify additional space for recruitment and retention of new faculty members.

Resources for Clinical Instruction

The resources for clinical instruction of medical students are spread across the state of Minnesota. Over 60 sites are used to provide students access to clinical learning in a variety of environments. Together these sites provide a diversity of contexts that allow students to choose experiences in patient care in settings that maximize their learning. All of the varied settings - rural and urban, inpatient and ambulatory - provide UMMS students with a rich patient base. The adequacy of the sites are measured by: (1) students' ability to encounter the patients with the required conditions, (2) students' high positive response rate to the AAMC GQ question "I have the fundamental understanding of common conditions and their management encountered in the major clinical disciplines," (3) students' 97% satisfied/highly satisfied response to the ISA question on access to patients in the Year 3 clerkships, and (4) their excellent performance on the USMLE Step 2 CK and Step 3 examinations.

Clinical Instructional Facilities/Information Resources

Within the clinical settings, students are generally satisfied with the educational and teaching spaces. Satisfaction with study space and access to secure storage space presented an opportunity for improvement. From the ISA and the UMMS initial internal survey, it was unclear if this issue was a result of students being unaware of these facilities in some sites (all of our sites report having them) or if the presently used facilities are inadequate. A follow-up survey is in progress to allow the UMMS to address the specific issues. Student satisfaction with the adequacy of technology support services for educational activities at hospitals and clinics is high.

Security, Student Safety, and Disaster Preparedness

Both campuses and all clinical sites have adequate safety and security systems in place to provide a safe learning environment. Specifically, on the Central and Regional Campuses, the UMN Police Department ensures student safety throughout its campus buildings through continuous patrolling and central monitoring. Both campuses also provide safety escort services. Additionally, on the Central Campus, a Health Sciences Safety Committee serves as a mechanism for collaboration for the unique safety concerns associated with the research and education environments.

The Central and Regional Campuses are located on undergraduate campuses with mandatory, real-time notification of potential safety concerns, disasters, or criminal activity available via text message (*SAFE-U Alerts*). The Department of Emergency Management coordinates the development of campus-specific emergency plans. The Public Safety Emergency Communications Center sends out appropriate notifications to administrators regarding threats, disasters, and safety issues with additional information as needed.

Overall, the ISA showed high levels of student satisfaction with safety and security. Year 2 Central Campus students identified concerns on the ISA as a result of a series of petty thefts from lockers during Fall of 2018. The solution was the installation of electronic card readers on locker room entrance doors so that only students can access the space. No thefts have occurred since. Student feedback has also been positive regarding recent changes to substantially limit public access to the Academic Health Center (AHC) buildings on the Central Campus.

Library Resources, Information Technology and Staff

Library and information technology services and staff support are substantial at the UMMS. The Health Sciences Libraries (HSL) are part of the UMN University Libraries. The University Libraries was a 2017 recipient of the National Medal for Museum and Library Service, one of only three academic libraries to receive the award in 23 years. The award honors institutions that “make significant and exceptional contributions to their communities.” Both campuses have access to IT professionals to support faculty, staff, and students. In addition, both campuses have liaisons from the library who work collaboratively with students and faculty on systematic reviews and projects.

The ISA demonstrated high satisfaction with the ease of access to library resources, the quality of the library support and services, and the quality and quantity of library-provided online resources across both campuses and over all class years. The AAMC GQ has indicated satisfaction with the library itself (suggesting the physical space) is good but lower than the national average (75.3% satisfied or very satisfied on the UMMS GQ versus 86.4% nationally). The library on the Central Campus will be moving into a refurbished space in association with the opening of the new HSEC.

The majority of educational resources are available to both UMMS faculty and students 24/7 and irrespective of site through online platforms. The IT Steering Committee at UMMS has representation from both campuses and oversees the hardware maintenance and software programming needed to facilitate learning and teaching.

Resources Used by Transfer/Visiting Students

The UMMS does not accept transfer students. The number of visiting students accepted for clinical experiences is dependent upon the capacity available only after UMMS students have been scheduled and the deadline for adding/dropping courses and electives has passed.

Study/Lounge/Storage Space/Call Rooms

The AAMC GQ and ISA results suggest that study space and relaxation space are challenges and represent significant opportunities for improvement. The quantity and quality of space requires attention. On the Regional Campus, additional study carrels and a dedicated student study room were created in Summer 2019 in response to the ISA results. A new lounge to address student needs will also be part of the renovation project on the Regional Campus.

The opening of the HSEC will help alleviate most, if not all, of the challenges related to relaxation, classroom, and study space on the Central Campus. Students will be resurveyed for satisfaction after a period of utilization.

In clinical settings where overnight call is required, secure call rooms are provided at the site. Secure storage lockers are available to students at most clinical sites for the required clerkships. In some instances, students have been unaware of access to these secure lockers and additional notification has been added to heighten awareness and increase utilization.

Required Notifications to the LCME

Two notifications have been provided to the LCME regarding: (1) the Education Across the Continuum in Pediatrics (EPAC) Program and (2) the Rural and Metropolitan Physician Associate Program (RPAP). Class size expansion on both campuses has not reached the threshold for notification, and the numbers are included in the DCI.

Standard 6: Competencies, Curricular Objectives, and Curricular Design

Format/Dissemination of Medical Education Program Objectives and Learning Objectives

In 2015, the UMMS adopted the Physician Competency Reference Set (PCRS) as its core set of medical education program objectives, with 58 competencies in 8 domains.³ The UMMS added a ninth domain, Scientific and Clinical Inquiry, with two additional competencies. (The UMMS refers to the complete set of these Graduation Competencies as the PCRS+1.) Since then, all course and clerkship objectives have been linked to the PCRS+1. In 2018, the Education

Council charged the Education Steering Committee (ESC) with re-evaluating the UMMS medical education program objectives (Graduation Competencies). The ESC began seeking input to adapt the PCRS +1 with three goals: (1) elimination of redundancies, (2) elimination of competencies thought to be beyond the scope of UME, and (3) focus on a subset that is measured using the Core Entrustable Professional Activities for Entering Residency⁴ as clinical assessment at the UMMS moves toward this framework in the upcoming academic year, with implementation expected in Academic Year 2020-21.

As a result, in the Summer of 2019, the Education Council unanimously adopted a new subset of 34 competencies adapted from the PCRS+1. These Graduation Competencies will be reflected in the course and clerkship syllabi and all assessments beginning in Academic Year 2020-21.

All course and clerkship objectives, as well as all graduation requirements outside of the required courses and clerkships, have objectives that link directly to one or more of the Graduation Competencies. Further, all session objectives are directly linked to the course or clerkship objectives and therefore, by definition, to the Graduation Competencies. All course and clerkship assessments are linked to their respective learning objectives and thus designed to address one or more of the Graduation Competencies. Similarly, assessments outside of the courses and clerkships (eg, USMLE Steps 1, 2 CK, and 2 CS as well as Objective Structured Clinical Examinations [OSCEs] and the institutional Clinical Competency Assessment) link directly to one or more of the Graduation Competencies.

Learning objectives are displayed in the LMS for each course/clerkship and are included in each syllabus. Course and Clerkship Directors receive the learning objectives as a link at the beginning of each rotation. The Course and Clerkship Directors review these objectives with the students during orientation at the outset of each course and clerkship, and are expected to share them with faculty in their courses or with Site Directors in the clerkships. Residents who will serve in a supervisory role are provided the medical student clerkship learning objectives through their orientations, and their attendance is mandatory and recorded.

Required Clinical Experiences

The UMMS maintains a required patient encounter list that is influenced by national specialty guidelines, national curricula, and Clerkship Director input. The list was approved by the Education Council after endorsement by the Clinical Education Committee (CEC). These clinical conditions and procedures have been assigned to clerkships where they can be taught and assessed. The specific type of setting has been identified based on the clerkship.

Students are asked to report on their level of supervision with each patient type and for each procedure/skill. At this time, the UMMS does not assign a required level of participation (for patient encounters) or level of supervision (for procedures). As a result of the Self-Study, the UMMS identified the level of participation for diagnoses and the level of supervision for procedures as an area for improvement. The first step was to update the procedure and patient log online tool to increase our tracking ability. This was accomplished in the Fall of 2019.

Simultaneously, a Curriculum Integration Task Force was charged with updating the list of required diagnoses and procedures and recommending a list that could serve as an organizing structure in both the preclinical and clinical sciences. This new list was recently adopted unanimously by the Education Council and will go into effect for Academic Year 2020-21. Each diagnosis and procedure/skill will be assigned to at least one clerkship. The Clerkship Director will be required to assign a level of participation for each diagnosis and a level of supervision for each procedure and list these in their syllabi for Academic Year 2020-21.

Self-Directed Learning Experiences

The curriculum is designed to build self-directed learning into all of its aspects. In the preclinical phase, case-based learning on both campuses is associated with the opportunity to identify individual learning objectives, search the literature, and present findings to faculty and peers. All students also have coursework devoted to the skills of practicing evidence-based medicine.

Students have adequate time for self-directed learning, with a minimum of three half days per week throughout the preclinical phase.

In the clinical phase, self-directed learning is fundamental to all clerkships. A recent change to the *Duty Hours Policy, Years 3 & 4* requires all clerkships to provide a half day every other week for Independent Learning Time (ILT) in an attempt to underscore the importance of self-directed learning (as well as self-care).

The ISA demonstrated high student satisfaction ratings (85% of all students satisfied or very satisfied) for opportunities for self-directed learning in the preclinical phase across all years, with a slight decrease for the Year 3 class (78% satisfied or very satisfied).

Inpatient/Outpatient Experience

The UMMS provides adequate inpatient and outpatient experiences to meet the educational objectives of the program. Currently, of the nine required clerkships, four are entirely inpatient, two are entirely outpatient, and three have a mix of inpatient and outpatient, for a total of approximately 60% inpatient and 40% ambulatory. The UMMS RPAP/MetroPAP parallel track tends to have a slightly higher ambulatory component (50% to 60%).

While the UMMS does not specifically survey students on the inpatient/ambulatory balance, the overwhelming majority of students are satisfied or very satisfied with their *fundamental understanding of the common conditions and their management encountered in the major clinical disciplines* based on AAMC GQ data. This fundamental understanding can only come about from an adequate mix and volume of patients.

Finally, evidence to support the adequacy of the mix and volume of patients to help students toward demonstrating the Graduation Competencies (educational program objectives) includes successful completion of all clerkships with a >98% pass rate in which assessments are directly linked to the Graduation Competencies and performance on USMLE Steps 2CK, 2 CS, and 3.

Elective Opportunities

As one of the 10 largest medical schools in the country, the UMMS has substantial opportunities for electives across all of its departments and clinical affiliates. Students are required to take 20 elective credits spread over the clinical phase. While no electives are required in Years 1 and 2, several are available for students to participate in at their discretion.

Service Learning

The UMMS has a strong commitment to service learning, an area of strength. All students on the Central Campus participate in a service learning project during the preclinical phase of their Essentials of Clinical Medicine (ECM) course, and all students on the Regional Campus participate in a community assessment project as part of their Rural Medicine Scholars Program (RMSP).

The vast majority (92%) of students are satisfied with their opportunities for service learning as reported on the ISA; and on the 2019 AAMC GQ, nearly 60% of graduates report being engaged in a community-based research project compared to 33% nationally.

Academic Environment

The UMMS Central Campus is situated in a large academic health center with five other health professions schools and colleges. Thus, all clinical phase students have access to many of their interprofessional colleagues by virtue of geographic proximity in the shared educational buildings, hospitals, and clinics. The new Health Sciences Education Center (HSEC) provides an ideal physical space for further integration of the health professions students. The UMMS Regional Campus is shared with the College of Pharmacy, resulting in close collaboration in education and research. Social work students from the UMN-Duluth are also incorporated into interprofessional activities on the Regional Campus. In addition, the UMMS Regional Campus has a relationship with the College of St. Scholastica, which has Nursing, Physical Therapy, and Occupational Therapy students.

A formal curriculum for interprofessional education (IPE) exists on both campuses, allowing three phases of interactions including an orientation phase, a skill building phase, and a teamwork phase. Due to constructive feedback from medical students over the past few years, the Central Campus revamped the orientation phase to create a day-long workshop entitled, "Better Together" for the 2019 Fall semester. As a result of its success it will be used as a prototype across the AHC and across campuses beginning in Academic Year 2020-21.

A large number of co-curricular experiences also exist for interprofessional collaboration. These include student-run clinics on both campuses that are interprofessional by design.

The UMMS Office of Continuing Professional Development (OCPD) is a Jointly Accredited Provider (medical, nursing, and pharmacy) and offers a myriad of events open to students. Student participation is optional unless part of a required didactic experience during a clerkship.

Education Program Duration

The UMMS program is 145 weeks on the Central Campus and 148 weeks on the Regional Campus. (The additional weeks are primarily a result of the RMSPP specific to the Regional Campus). The only program in which students may transition to residency earlier than 130 weeks is the Education in Pediatrics Across the Continuum program (EPAC), in which students are advanced based on the demonstration of competence rather than time. Based on changes to the program after the first two cohorts, over the last three years only one student has transitioned to GME in less than 130 weeks, and that was an MD/PhD student. It is anticipated that going forward all candidates for the MD degree will complete a minimum of 130 weeks.

Standard 7: Curricular Content

Overview

The UMMS curriculum provides a broad and comprehensive exposure including all of the components addressed in Standard 7. In trying to understand the success of the UMMS curriculum *content* as a whole, the UMMS Program Evaluation team has provided a value-added analysis. This analysis compares actual performance with predicted performance when the predicted performance is known. This is particularly useful in analyzing USMLE performance data as a measure of the students' mastery of content in the Knowledge for Practice domain. Looking at performance on USMLE Step 1, Step 2 CK, and Step 3 demonstrates that UMMS students are generally performing at or above the expected levels as predicted by the MCAT or prior USMLE scores. Students perform on average 0.1 Standard Error of the Mean above expected level on USMLE Step 3, suggesting the total UMMS curriculum provides value added and endorsing the UMMS' overall approach to curricular content.

Biomedical, Behavioral, and Social Sciences and Medical Ethics

Overall, the UMMS curriculum covers the breadth and depth of topics from the biomedical, behavioral, and social sciences as well as medical ethics. Students are generally satisfied with the adequacy of these curricula; although on both campuses students note opportunities for improvement in specific areas, such as behavioral medicine and genetics. Based on the data presented to the Education Council and its subcommittees, examples of recent improvements in these areas of the curriculum include: (1) On the Central Campus, engaging new course directors in Genetics and Behavioral Medicine Courses and overhauling the Managing Clinical Information portion of the ECM course and (2) On the Regional Campus, reorganizing the Sociobehavioral course content and its placement in the curriculum and incorporating more genetics content into Problem-Based Learning (PBL) cases.

Level of Care and the Life Cycles

The UMMS provides a variety of opportunities and experiences throughout the curriculum to compare and contrast the phases of the human life cycle, from embryo development to death. Additionally, students have ample opportunity to learn about and experience preventative and primary care, as well as care coordination across both campuses during the preclinical phase and throughout the clinical phase. The richness and variety of clinical sites also allows all students to experience acute, chronic, rehabilitative, and end-of-life care. The ISA suggests that, by the time students have experienced most of the curriculum through Year 4, they are generally satisfied with their education in diagnosing and managing disease as well as disease prevention and health maintenance.

Scientific Method, Clinical and Translational Research

The UMMS curriculum provides both didactic and experiential instruction in the scientific method. Students learn through course work in the preclinical phase about types of studies, hypothesis generation, how to read and interpret scientific literature, and how to apply the literature to their patients. Students from both campuses also have a number of sessions

dealing with research ethics, communication about research with patients (including informed consent), and how to apply research findings to a patient or community.

Medical Problem Solving and Evidence-based Clinical Judgment

On both campuses, students begin to acquire clinical reasoning skills in the first semester through case-based courses or sessions that span the preclinical curriculum. Students get to hone their skills in problem identification, generation of differential diagnoses, ordering and interpreting tests, and applying evidence to the care of patients through these small group learning opportunities. The cases are coordinated temporally with basic science content. The ISA results show high satisfaction rates with the education to diagnose disease across both campuses and all years.

Societal Problems

The UMMS provides the necessary curricula regarding societal problems and their effects on health, and both aspects are taught and assessed throughout the four-year curriculum. The five examples provided in the DCI are areas of focus across both campuses and phases of the curriculum. The motivation for the attention to these issues in the curriculum has come from both faculty and students, often driven by national or regional concerns. Students in particular have been increasingly focused on issues of social justice and have partnered with faculty to increase attention to the myriad of issues facing society that affect health. The dedication of UMMS students to social justice and to helping address societal concerns are evident through the high percentage that go on to care primarily for underserved communities. Additionally, the myriad of clinical opportunities provides ample experiences in working with underserved populations. Four of UMMS' LICs are specifically designed to address the effects of societal problems on health in underserved populations (RPAP-rural population and Native American health, MetroPAP-urban underserved populations, HeLIX-urban underserved and immigrant population, and REACH-homeless population and patients with chemical dependency).

Communication and Understanding Personal Bias

Through its preclinical and clinical curricula, the UMMS provides the necessary curriculum to instill communication skills and an understanding of one's personal biases by embedding activities to promote effective communication with physicians, other health professionals, and patients. Performance within courses and clerkships, on OSCEs, and the USMLE 2 CS suggest that UMMS students have excellent communication skills. Students are also confident in their communication skills as evidenced by the 2019 AAMC GQ data showing 99.5% of UMMS students agree or strongly agree they *have the communication skills necessary to interact with patients and health professionals*. Students also feel well prepared to provide care to patients from different backgrounds. Of 2019 graduates, 98.4% agreed or strongly agreed with the AAMC GQ statement, *I believe I am adequately prepared to care for patients from different backgrounds*. UMMS considers its effective communication activities a strength of the educational program.

Interprofessional Collaborative Skills

The UMMS provides adequate curriculum to ensure students develop the four competencies delineated by the Interprofessional Education Collaborative® (IPEC) in 2012 and incorporated into our Graduation Competencies. The curriculum involves the UMMS engagement with the UMN's own AHC Interprofessional Education collaborative, 1Health, which consists of representatives from all six of the academic health schools and colleges on the Central Campus and faculty representatives from the Regional Campus. In addition, the UMMS has a focus on interprofessional collaboration in the clerkships, including a third phase of the 1Health curriculum occurring during the internal medicine rotation. Student ratings of their satisfaction with IPE experiences were low on the Central Campus for the preclinical phase, predominantly related to dissatisfaction with the first phase of the 1Health program. The result was a pilot of a new first phase, Better Together, which received more favorable reviews. As a result, the entire first phase of the 1Health program will change to the Better Together curriculum in Academic Year 2020-21. On the positive side, 84% of UMMS Year 4 students who had the benefit of experiencing the entirety of the IPE program were satisfied or very satisfied with their IPE experiences, as reported on the ISA.

Standard 8: Curricular Management, Evaluation, and Enhancement

Curricular Management

The Education Council is the UMMS curriculum oversight committee, as established by the *Bylaws to the Constitution of the UMMS*. The Education Council oversees all aspects of curricular design, management, and evaluation. The Education Council agendas and minutes are published to the UMMS public-facing website.

The Education Council and its Subcommittees cover all aspects of the medical educational program. This structure has been effective as evidenced by its ability to respond to established and emerging needs based on robust data summarized each year in the *State of Undergraduate Medical Education Report*. Examples provided in the DCI include: (1) a complete restructuring of Year 3 to optimize clinical capacity and improve USMLE Step 2 performance and (2) changing the preclinical phase grading system to a criterion-referenced pass/fail system and decreasing cognitive load on the Central Campus to improve burnout without harming overall or USMLE Step 1 performance.

Use of Medical Education Program Objectives

As noted in Standard 6, the UMMS has adapted the Physician Competency Reference Set (PCRS)³ as its medical education program objectives (or Graduation Competencies), with the addition of two competencies in the domain of Scientific and Clinical Inquiry. In doing so, the Graduation Competencies have a direct link to the Accreditation Council for Graduate Medical Education (ACGME) Core Competencies, establishing continuity across the UME-GME practice continuum. All course and clerkship objectives are linked to one or more competencies, and all competencies are taught in the curriculum, in many cases in a number of courses and/or clerkships.

As noted in the summary of Standard 6 above, the UMMS recently revisited the Graduation Competencies and, following an engaging process of all of the Education Council Subcommittees, the Education Council approved a revised subset of 34 of the original 60 Graduation Competencies in nine domains. As these Graduation Competencies drive the UMMS curriculum and assessment, they are the focus for feedback on our graduates from Program Directors. The overwhelming majority (96% to 100%) of UMMS graduates are rated as superior or acceptable on the ACGME's six Core Competencies by their residency Program Directors.

Curricular Design, Review, Revision/Content Monitoring

The Education Council is responsible for oversight of all aspects and phases of the curriculum at the programmatic level. Content monitoring, curricular design, and opportunities for improvement are monitored through a variety of data that is summarized in the yearly *State of Undergraduate Medical Education Report* from the Office of Assessment and Program Evaluation. The *Report* provides data on key performance indicators, including such items as student selection, student satisfaction, student performance (both locally constructed assessments and external examinations), teacher effectiveness, institutional effectiveness, and the learning environment. This data allows the Education Council to understand curricular performance at the program, phase, and individual course and clerkship levels as well as to review that performance yearly to set priorities.

The curricular subcommittees of the Education Council focus on phases of the curriculum. The committees for the preclinical phase of the curriculum are comprised of the Course Directors and members of the supporting administration groups at each campus (curriculum, assessment, and program evaluation). Similarly, the clinical phase subcommittee of the curriculum is comprised of all of the required Clerkship Directors as well as representatives from elective clerkships and supporting members of the administration. These subcommittees formally review each course and clerkship yearly or biannually through the Annual Course/Clerkship Review. These subcommittees also work together for both horizontal integration of curriculum within a phase and vertical integration across phases. The Assessment Committee, another subcommittee of the Education Council, ensures alignment of the curriculum and the assessments of students within and across phases of the curriculum.

Finally, as noted in our summary of LCME Site Visit 2012 findings for *Element 8.3* (ED-37), in an effort to provide more robust functionality and a more supported, enterprise-wide platform, the UMMS recently transitioned to Canvas® to serve as the primary LMS. The transition was complete in the Fall of 2019.

Program Evaluation

The UMMS has a rich system of program evaluation that allows both tracking of student outcomes and identification of areas for improvement. The aggregate of the array of data sources is published yearly in the *State of Undergraduate Medical Education Report*. Some frequently used measures include USMLE scores, National Board of Medical Examiners (NBME®) subject examinations, passing rates and grade distributions in required courses and clerkships, students' performance on local institutional examinations (such as OSCEs), and faculty/peer assessments of student behavior and attitudes. As noted above, program evaluation also includes feedback from residency Program Directors on the UMMS graduates, and this feedback has reinforced the UMMS's internal evaluation.

Medical Student Feedback

The UMMS has a robust system in place to ensure student feedback through multiple channels. In addition to course and clerkship reviews, students can provide feedback for any specific session through online feedback cards. The UMMS also reviews the AAMC questionnaires (Y2Q and AAMC GQ) annually for identification of strengths and opportunities for improvement. UMMS response rates are now at or above the national average. The UMMS has also created a unique opportunity for student feedback, the Pulse Survey, focused on real-time measurement of the student experience of the learning environment, wellness and mental health, and educational satisfaction. All students are surveyed in September, and then are randomly split into eight groups, stratified by year and campus of origin. Each of these groups provides responses to the survey once over the ensuing eight months, allowing the UMMS to get a sense of the "pulse" of the student body through the cycle of a school year rather than through a single point in time (eg, as measured by the AAMC Y2Q and AAMC GQ). Finally, medical students are generally satisfied with UMMS responsiveness to their feedback.

Monitoring of Completion of Required Clinical Experiences

Through the LCME Self-Study process, the UMMS identified the monitoring of completion of required clinical experiences as an area for significant improvement. The clinical conditions and procedural skills were delineated and assigned to particular clerkships; however, the system for logging was cumbersome and therefore inadequately utilized. Additionally, mid-clerkship feedback between the student and Site Director or preceptor was not regularly including a review of required clinical experiences. Clerkship Directors are now working to ensure mid-clerkship feedback identifies gaps in the required clinical experiences and strategies for filling them. Simultaneously, of note, an Integration Task Force was tasked by the Education Council with revisiting the UMMS list of required diagnoses and procedures. A new list was approved by the Education Council in the Fall of 2019 to serve as the foundation for curricular content across all phases of the curriculum starting in Academic Year 2020-21.

Based on the Self-Study findings, improvements in Academic Year 2019-2020 have included: (1) Change in the software students use to log patient encounters and procedures, with a resultant 15- to 20-fold increase in student encounters logged, (2) Development of an interface for Clerkship Directors that allows them to see in real-time the aggregate student data for patient encounter and procedure tracking for their clerkship, and (3) requiring mid-clerkship feedback to include review of the individual student's patient and procedure log to develop plans to fulfill those required encounters that have not been fulfilled at the mid-clerkship point. Furthermore, planned Academic Year 2020-21 changes include: (1) the addition of patient encounter and procedure aggregate data to the Annual Clerkship Review, (2) central monitoring of student logging by the Offices of Curriculum and Assessment and Program Evaluation to provide proactive feedback to students and Clerkship Directors, (3) ensuring the new list of required patient encounters and procedures is represented in all clerkship syllabi, including levels of participation expected for patient diagnoses or conditions and level of supervision expected by procedure or skill.

On the positive side, a plethora of information suggests that UMMS students get an excellent breadth and depth of patient experience, including both their own perceptions as evidenced by the AAMC GQ and ISA results (access to patients, ability to manage common problems at graduation) and nationally benchmarkable data such as performance on USMLE Step 2 CK and Step 3.

Comparability of Education/Assessment

The UMMS is one of a handful of schools with a Regional Campus focused solely on the preclinical phase for about a quarter of the student body. The aim of the UMMS Regional Campus is to recruit and develop students to serve as primary caregivers to Minnesota's underserved populations, particularly rural Minnesotans and the Native American/Alaskan Native population. The focus of comparability between campuses is perhaps best stated by one of the Guiding Principles of the *UME Strategic Plan*, which is to "Standardize the Outcomes, Individualize the Learning Pathways." Thus, the two campuses share common (1) Graduation Competencies and (2) graduation and progression requirements (such as passing all courses and completing all Year 1 requirements before advancing to Year 2 and all Year 2 requirements before advancing to Year 3).

Oversight for comparability rests with the Education Council. Comparability between campuses is evaluated through a set of macro-level outcomes: (1) student performance on the USMLE Step 1, 2, and 2 CK, (2) student performance in the clinical phase of the curriculum, (3) Match rates, (4) overall satisfaction with medical education, and (5) level of burnout.

Going forward, UMMS plans to develop a more micro-level approach to comparability in outcomes by creating a set of common course objectives for the preclinical phase across both campuses. Once developed, UMMS will create a set of learning objectives based on those course objectives and then a set of assessment questions based on each learning objective. The goal is a common database of 5,000 to 10,000 questions across both campuses to allow micro-level comparisons of performance in the preclinical phase at the level of specific content.

In the clinical phase, comparability is assured through both structure and process. From the structural standpoint, all Clerkships (including LICs) have Directors, and all sites have Site Directors. Site Directors are responsible for ensuring that faculty and students are aware of the learning objectives, required clinical encounters/skills, assessment methods, and grading system for the clerkship. From a process standpoint, each Clerkship and LIC provides an Annual Clerkship Review (ACR) in which site comparability data is provided. The ACR contains student satisfaction data across sites as well as site-specific data on work duty hours, balance of supervision and autonomy, and themes that emerge from the comments. Clerkship Directors are responsible for developing and implementing action plans when significant discrepancies exist between sites. The Office of UME also provides two day-long workshops per year for Site Directors during which the data is reviewed, presenting an opportunity to share best practices.

Monitoring Student Workload

The UMMS has a clear policy regarding duty hours (articulated in *Duty Hours Policy, Years 3 and 4*). The policy was recently reviewed and revised as part of the UMMS efforts to improve student mental health and wellness. The Clinical Education Committee (CEC) charged a Task Force consisting of Graduate Medical Education (GME) representatives, Clerkship Directors, and students with revising the policy to consider: (1) the need for rest and recuperation during clinical courses to optimize learning, (2) the need to consider requirements for exams during the clerkships and the resultant necessary study time, and (3) career development needs to prepare for the Match and residency. The resulting *Duty Hours Policy* has been piloted during the current academic year (2019-20). Rather than focus on a specific number of hours, the policy delineates required time off designed to optimize wellness and study time while also allowing the least disruption to student continuity during a clerkship. The new policy is being closely monitored through surveys (following the pilot) and student reporting on their clerkship evaluations. The Office of Assessment and Evaluation is also implementing a new function (in Canvas® the LMS) to allow students to more easily report duty hour violations in real time.

Standard 9: Teaching, Supervision, Assessment, and Student and Patient Safety

Preparation of Residents and Other Non-Faculty Instructors

The Office of Graduate Medical Education (OGME) provides a *Residency Program Manual* to all residents. The *Manual* describes the LCME requirement that all residents engaged in teaching be aware of the educational objectives for the clerkship or course, the policies related to mistreatment, and the responsibilities for supervision. The OGME charges individual programs with ensuring that residents are oriented to the learning objectives for medical students, the policies on mistreatment and the process for reporting and responding to allegations of mistreatment, as well as the policies related to work duty hours. All programs provide residents with this information, mostly during orientation for new residents

and/or residents moving from a junior to a supervisory level. The OGME monitors attendance at required program-specific orientations in which objectives are shared.

Specific resident development in teaching occurs in required sessions in all the core clerkship departments. These programs take a variety of forms and many occur early in the second postgraduate year as residents assume a more supervisory role.

Finally, UMMS students have consistently rated resident teaching highly and above the national average (data through 2018; not measured on AAMC GQ 2019).

Faculty Supervision

The UMMS ensures through both policy and practice that student learning experiences in the required clerkships are provided by UMMS faculty members. Faculty appointments are managed at the departmental level. The UMMS' *Student Supervision During Clinical Activities Policy* articulates the requirement that each teaching site have at least one physician with a faculty appointment (may be an Adjunct Faculty appointment). All faculty appointments are reported annually and reviewed at least every three years by departments regardless of appointment type. When a faculty appointment is needed, the Site Director, the Clerkship Director, or the LIC Director work with the Department Chair to obtain approval.

In 2019, the UMMS developed a survey tool to improve the ease of the verification of status for teaching faculty across clinical sites. The tool provides an annual list of Site Directors and their appointment status. At the most recent update, 134 of 135 Site Directors had a faculty appointment completed or pending (excluding the RPAP/MetroPAP Program). The UMMS is working on either completing the appointment process for the remaining individual or finding a replacement. All RPAP/MetroPAP program sites have an adjunct faculty who is appointed (or is pending for appointment) at the UMMS through the Department of Family Medicine and Community Health.

The UMMS' *Student Supervision During Clinical Activities Policy* also defines levels of supervision to include direct supervision (where the supervisor is present with the student and patient) and indirect supervision (where the supervisor, while not in the presence of the student and/or patient, is immediately available to the learner and at the site of care to provide direct supervision as needed). The *Policy* also delineates the expectation that faculty will notify the Course or Clerkship Directors immediately about anything that may jeopardize the student's and/or patient's safety.

The end-of-clerkship evaluations hold compelling evidence that students are overall highly satisfied with the level of supervision. Students rate the "balance of autonomy and supervision" close to the ideal state. A 2 rating represents the ideal balance, a 1 represents too much shadowing, and a 3 represents too much autonomy, and UMMS students rate all clerkships between a 1.73 and a 2.1, with most ratings within the 1.9 to 2.1 range. Additionally, 97% of Year 3 and 4 students were satisfied or very satisfied with the supervision in their clerkships according to the ISA.

When a non-physician, most commonly an advanced practice registered nurse or physician's assistant (APRN/PA), supervises a student, it is only under the circumstances that the non-physician practitioner is at the same time under the supervision of a faculty member.

Measures of Student Achievement/Direct Observation of Core Clinical Skills

The UMMS provides a wide variety of assessments that in the aggregate ensure students acquire the Graduation Competencies over the four-year curriculum. These include both external assessments, such as (1) the USMLE series, (2) internal institutional assessments, such as the OSCE at the end of Year 2 and the Clinical Competence Assessment at the end of Year 3, and (3) course and clerkship assessments that address the Graduation Competencies.

Direct observation of history and physical examination (H&P) skills has been an area in which the UMMS has performed below the national mean on all clerkships, according to 2019 AAMC GQ. On the ISA, 76% of Year 3 students and 78% of Year 4 students were satisfied or very satisfied with their clinical skills assessment. Additionally, students overall were not satisfied that their grade reflected their performance (66% and 54% for Years 3 and 4, respectively). Improving objectivity of global clerkship assessments is one of the top 15 ISA priorities.

To improve clinical assessment, UMMS has committed approximately \$750,000 to develop a premier program in workplace-based assessment designed to scale the success of the Education in Pediatrics Across the Curriculum (EPAC) program. The program will be piloted in Academic Year 2020-21 and is expected to be implemented beginning in Academic Year 2021-22. In the meantime, a number of measures are being taken to improve the direct observation of relevant components of the H&P as well as student perception that evaluation consistently and accurately rates their performance and that their grades are in accordance.

Formative and Summative Assessment

The UMMS program of assessment across the curriculum provides excellent opportunities for high-quality formative and summative assessment for both the preclinical and clinical phases of medical education. For preclinical study, the Program of Assessment requires four assessment components in each course, ensuring multiple opportunities throughout a course for students to consider an objective assessment of their performance in order to improve that performance. Efforts to improve formative feedback have resulted in greater student satisfaction in terms of amount and quality of that feedback.

The ISA revealed that 89% and 90%, respectively, of Year 1 students on the Central and Regional Campuses were satisfied with the amount and quality of preclinical formative feedback. Of Year 2 students on the Central and Regional Campuses, 80% and 81%, respectively, were satisfied with the amount of preclinical formative feedback, and 77% and 75%, respectively, were satisfied with the quality of that feedback. Lower ratings by the Year 3 and Year 4 classes suggest strong improvement in this aspect of assessment over the past two years.

During the clinical phase, students receive narrative assessment in all clerkships. The UMMS process in place ensures mid-clerkship feedback in all clerkships. In 2016-2018 students reported receiving mid-clerkship feedback at high levels, generally at or above the national levels. This year in Ob/Gyn the reporting of mid-clerkship feedback was approximately 10% below the national mean, while Psychiatry and Neurology were both about 4-5% below the national mean. Clerkship Directors are trying to determine the root causes for these modest declines, and UMMS has added a clerkship evaluation question to provide Clerkship Directors real-time feedback on the percentage of students reporting having received mid-clerkship feedback.

On the ISA, 78% of Year 3 and Year 4 students were satisfied with the amount of formative feedback during Years 3 and 4, while 71% were satisfied with the quality. Of Year 3 and 4 students, 74% were satisfied with the “amount of real-time feedback in the clinical environment.” As noted in the section above, the UMMS has dedicated significant resources to improving assessment for the clinical phase of the curriculum to enhance the quantity and quality of direct observation and actionable feedback.

Timeliness of Grades

During the LCME Site Visit 2012 UMMS was cited for inadequate timeliness of clerkship grades *Element 9.8* (ED-30). Process improvement efforts (from 2016 through 2019, in particular) have resulted in a dramatic reduction in the number of required clerkship grades delayed beyond 6 weeks. Out of more than 2000/year required clerkship grades the number has dropped from 65 (AY 2016-17) to 55 (AY 2017-18) and 5 (AY 2018-19).

Narrative Assessment in the Preclinical Years

During the LCME Site Visit 2012, the UMMS was cited on *Element 9.8* (ED-32) for a lack of narrative assessment in the preclinical phase, primarily as a result of only one preclinical phase course offering with narrative assessment on the Central Campus. Since that time, the UMMS has focused on expanding the amount and quality of preclinical phase narrative assessment, which is now provided in a variety of settings on both the Central and Regional Campuses over the preclinical phase. Evidence from internal surveys has shown high levels of student satisfaction in narrative assessment availability and usefulness, indicating that UMMS has made meaningful improvement as part of its CQI efforts.

Standards of Achievement

Responsibility for setting standards of achievement for courses and clerkships and for the curriculum as a whole ultimately rests with the Education Council, the curriculum oversight committee. With regard to the curriculum as a whole, the Education Council sets the requirements students must meet in order to progress to the next academic year (eg,

Year 1 to Year 2), to the next phase (ie, from preclinical to clinical phase), and any additional requirements students must meet in order to be awarded the MD degree.

Faculty members with appropriate knowledge and expertise set the standards of achievement in each required learning experience in the medical education program. Course and Clerkship Directors, in conjunction with the Curriculum Committees and Assessment Committee, set standards of achievement for individual courses and clerkships.

Standards for Advancement and Graduation

The UMMS has clear guidelines and policies regarding student advancement and graduation to ensure a core set of standards is applied across the enterprise. The academic and technical standards are established and promulgated by the Education Council. The main policy governing the standards for advancement and graduation is the *Policy on Academic Progress and Graduation*.

The *Scholastic Standing Committee Policy* for both the Committee on Student Scholastic Standing (COSSS) on the Central Campus and the Scholastic Standing Committee (SSC) on the Regional Campus articulates a clear set of fair due process protections for students in instances where adverse action is being considered for academic or non-academic (professionalism) reasons.

The only parallel curriculum at the UMMS is the Rural Physician/Metro Physician Associate Program (RPAP/MetroPAP) LICs. Students in this parallel curriculum meet the same technical, academic, and professional requirements as all other students, completing the same clinical requirements during Years 3 and 4.

Standard 10: Medical Student Selection, Assignment, and Progress

Premedical Education/Required Coursework

The UMMS has robust processes for the screening and recruitment of applicants to the programs on both campuses and to the MD/PhD Program. The Admissions Oversight Committee (AOC) oversees all admissions for the MD degree (including the MD/PhD Program) and reviews selection processes and outcomes at least every two years. These processes are designed to optimize the ability to recruit students who will meet UMMS missions and be successful at the UMMS.

The UMMS provides potential applicants with a clear list of basic requirements (including required courses) they must meet to be considered for admission. In Academic Year 2008, the UMMS went through a critical review of the required courses and significantly changed from a highly proscriptive number (16) to only 7. The UMMS approach allows applicants to pursue a broad range of premedical coursework.

Technical Standards

Technical standards are provided to interviewees on their interview day. Interviewees with concerns are referred to the Disability Resource Center on the Central Campus and Disability Resources on the Regional Campus. For matriculated students, staff, and faculty, the technical standards are available on the UMMS Medical Student Policies website.

Final Authority of the Admissions Committee

The UMMS Admissions Executive Committee (AEC), comprised of nine faculty members, is responsible for approving or rejecting decisions forwarded from each of three UMMS admissions subcommittees, representing the Central and Regional Campuses and the MD/PhD Program. The final authority for the offer of admission, as expressed in the *Bylaws to the Constitution of the UMMS*, rests with the AEC after input from the three Admissions Committees. Their decisions, by both policy and practice, are free from any external influences. Additionally, the UMMS admissions policies require that members of the AEC as well as the Regional and Central Campus Admissions subcommittees sign an annual COI attestation. For the MD/PhD Admissions Subcommittee, potential COIs are requested at the beginning of every meeting and require recusal from the discussion.

Policies Regarding Student Selection/Progress and Their Dissemination

Policies regarding student selection are readily available online to potential applicants and faculty. Included in the online information are the Essential or Desired personal characteristics. Policies for the assessment, advancement, and graduation of medical students and the policies for disciplinary action are located on the *Medical Student Policies* webpage available

to the public. Students also learn about the policies on advancement during orientation. A student handbook for MD/PhD students provides program-specific information on advancement.

Characteristics of Accepted Applicants

Common to all UMMS applicants for the MD degree is a requirement for strong academics. Personal attributes cover four overarching domains: a commitment to improving the human condition, professional conduct, outstanding interpersonal skills, and a dedication to lifelong learning. Additionally, applicants to the Regional Campus are evaluated for their commitment to rural or Native American healthcare in alignment with the Regional Campus mission. MD/PhD Program applicants must demonstrate substantial independent research experience, in addition to characteristics believed to be predictive for success in a physician-scientist career.

A number of methods are used to prepare and train members of the admissions committees (as well as interviewers not on the admissions committee) on the Essential and Desired Qualities of applicants. Methods include a new member orientation workshop, training manuals for the Central and Regional Campus subcommittees, Office of Admissions in-person training on request, and online presentations on the multiple-mini interview (MMI).

Content of Informational Materials

The UMMS has extensive, accurate, and current information published on the web, which is updated annually, and more frequently as needed. Recruitment materials for the UMMS are available through a public-facing Admissions website. Information includes, but is not limited to, entering class statistics, orientation dates, tuition information, and admissions requirements. Hard-copy brochures used for recruitment (eg, for college recruitment fairs) are also updated annually.

Transfer Students

The UMMS does not accept transfer students in any year, and has not done so for several years. No current enrollees are transfer students.

Policies and Processes Related to Visiting Students

The UMMS has adequate policies and procedures to ensure visiting students' qualifications are comparable to those of enrolled status. UMMS uses the AAMC Visiting Student Learning Opportunities (VSLO) application system and accepts domestic visiting students from LCME-accredited or Commission on Osteopathic College of Accreditation (COCA)-accredited medical schools.

The Assistant Registrar ensures students have completed all of their educational and compliance requirements (eg, immunizations). The Assistant Registrar is also responsible for maintaining an accurate and up-to-date roster of visiting medical students. Departments are responsible for reviewing the students' educational experiences to ensure comparability to the UMMS students.

To ensure adequate resources and appropriate supervision, visiting medical students are not chosen until the UMMS clerkship drop/add deadlines have passed. Departments then offer unfilled open clinical positions to visiting students.

Student Assignment

The UMMS provides a fair process to students for the opportunity to request placements at specific clinical sites. For the block clerkships, the Assistant Registrar is responsible for all final decisions regarding required clerkship placements, (except Family Medicine and Surgery, which are handled by the Clerkship Coordinators). The Assistant Dean for Student Affairs on the Central Campus handles all special requests based on extenuating circumstances or need for accommodations and serves as the arbitrator when students have concerns about their placements.

The process engages students in a rank order list. Efforts are made to give every student one of their top three choices. Once student site placements have been completed and before a given clerkship begins, students requesting a site change are directed to the appropriate clerkship coordinator for consideration. If the requested site change is not possible within existing clinical capacity, a student must go to the assigned site. If there are extenuating circumstances, students can appeal to the Assistant Dean for Student Affairs.

The process for the LICs is based on an application process in the late Fall and early Winter. By definition of an LIC, students who apply do so for a specific site. In the event that capacity limits students' participation in an LIC, the students join their peers in the block clerkship rotations, with the same process for assignment as outlined above.

Scheduling policies and the form for a formal request for an alternative site are available to students on a Clinical Scheduling webpage on the UMMS website.

Standard 11: Medical Student Academic Support, Career Advising, and Educational Records

Academic Advising

The UMMS has a rich academic advising program for all phases of the curriculum. Effective measures are in place for early identification of students in academic difficulty, allowing direction to appropriate resources for assistance, counseling, and/or remediation.

The UMMS has a number of academic advising resources for counseling and/or remediation that are customized for each student, including: Student Affairs Deans on both campuses, the Offices of Learner Development (both campuses), Faculty Advisors (Central Campus), Career Faculty Advisors (Regional Campus), Academic Advisors (Central Campus), the Disability Resource Center (Central Campus), Disability Resources (Regional Campus), Course and Clerkship Directors, the Director of Clinical Coaching, and peer mentors.

When difficulties arise, the scholastic standing committees carefully monitor student performance and help to develop action plans designed to facilitate students' return to good academic standing.

Despite the academic rigors of the program, UMMS' attrition rate is only 1% to 3%, in part due to the excellence of academic advising. Additionally, it is worth noting that because UMMS students pay for the degree rather than the semester, deceleration and/or the requirement to remediate a course or clerkship do not result in any additional tuition incurrence.

Career Advising

Career advising at UMMS occurs throughout all phases of the curriculum. The percentage of students who match to their specialty of choice is aligned with national averages. A number of resources are available online to help students through the process of choosing a career and guiding them through the Match, from matriculation through their final year. Specialty interest groups are available in a number of specialties on both campuses.

Data from the 2018 AAMC GQ began to show satisfaction significantly below the national average for career advising, and this data was corroborated by the ISA and 2019 AAMC GQ. Students also specifically noted a desire for improved specialty-specific advising regarding electives as one of their 15 top ISA priorities. While students clearly value their relationship with and counseling from their Faculty Advisors, discussions with clinical phase students revealed that students felt a lack of adequate advising/counseling from *specialty-specific* mentors in some specialties as well as a lack of a programmatic approach to the Match from matriculation through graduation.

In response to these concerns, in early 2019 UMMS created a new position, the Faculty Advising and Residency Match Coordinator. As a member of the Student Affairs team, she is charged with creating a career preparation program from matriculation through the Match across both campuses. One of her first actions was to ensure that each department representing a specialty with a residency program identified a specialty-specific advisor. A list has been created and made available to all students and Faculty Advisors. Roles of the specialty-specific advisors include counseling students on strengths and areas for improvement on residency applications, thoughts about elective choices, and connections for research or other options in the field.

Medical Student Performance Evaluation (MSPE)

The process for preparation and release of the MSPE is effective. Faculty advisors complete the MSPE for their students, and all MSPEs are released on October 1. Students have access to their MSPEs from May until September and the MSPE cannot be released until students sign off that they have reviewed it.

Oversight of Extramural Electives

Procedures for the oversight of extramural electives are adequate and effective. A system is in place to screen potential sites that might pose risk or safety issues for students and to prepare the students for those risks when present. The Global Medical Education and Research Program (GMER) at the UMMS is a strength and oversees all international extramural electives for UMMS students.

UMMS ensures that student assessment and site evaluations data are collected. Site evaluation data is available to students with an interest in those sites.

Confidentiality of Student Educational Records

The UMMS has adequate policies and procedures to protect the confidentiality of student records and to provide students access to their records in a timely fashion. The UMMS uses the Family Educational Rights and Privacy Act (FERPA) standard to determine who has permission to review a medical student's file. The standard limits access to any aspect of the student's file to those with "legitimate educational interest." Thus, each set of data (eg, disabilities accommodation letters, disciplinary actions, the MSPE) is limited to only those administrators and/or faculty with a legitimate educational interest in that data.

Several confidential files are maintained outside of the purview of UMMS (such as the medical health information records). Within the purview of UMMS, confidential files are kept either in locked drawers in the respective campuses' Office of Student Affairs (OSA) or in one of three online, secure, password-protected systems.

Students have timely access to their records. Because most of the records are online, currently enrolled students have immediate access to those records, including registration, grades, financial aid and student account information, unofficial transcripts, and immunization compliance information.

Fair and effective mechanisms are in place for students to challenge information in their records, including comments on their MSPE or grades in courses and/or clerkships. Specific policies are available online to describe student access to their records and the grading policy.

Standard 12: Medical Student Health Services, Personal Counseling, and Financial Aid Services

Trends in Tuition

The LCME Site Visit 2012 found UMMS to be Satisfactory with a Need for Monitoring for *Element 12.1* (MS-24) due to UMMS having the fourth highest tuition among public medical schools, high student indebtedness, and only modest financial aid. Since that time, focused efforts to stabilize tuition and lower debt have had significant positive results. Tuition was held steady for five years, from 2014-2018, and tuition increases were modest for the past two academic years. As a result, UMMS now ranks 38th out of 90 public schools for tuition rates. Additionally, UMMS students are charged for their degree rather than by semester, meaning they incur no extra tuition costs in the event of an academic or personal setback that delays their graduation. Tuition is held steady throughout a student's tenure at the UMMS at the rate at the time of matriculation.

UMMS has also had excellent results in fundraising, raising more than \$60 million between 2011 and 2019. Disbursements and scholarship programs have shown considerable upward trends as well. Finally, the UMN-wide scholarship and tracking tool (STAR) has allowed optimization of the disbursement of available funds. The result is a significant decline in the relative indebtedness of UMMS students compared to the national averages, with UMMS falling below the average for both public and all medical schools in average debt of indebted graduates in 2018.

Financial Aid and Debt Management Counseling

Student satisfaction with financial aid and debt counseling services is generally at or above the national average on the AAMC GQ. The ISA showed high satisfaction rates with these services overall, with a significant exception of Year 2 students on the Regional Campus. These students had experienced a change in process that some found did not serve their needs and the UMMS Financial Aid Office has reverted to the original process.

Tuition Refund Policy

The UMMS has a clear and reasonable *Tuition Refund Policy*, which was most recently updated in the Fall of 2018.

Personal Counseling/Mental Health Services

The UMMS makes every effort to provide students with access to effective and confidential mental health and personal counseling services. Data on the AAMC GQ have been around the national average for student satisfaction with personal counseling and mental health services. The ISA shows overall high satisfaction, with two notable exceptions: the availability of mental health services on the Regional Campus and the availability of personal counseling and mental health services in the clinical phase, especially in Year 3.

On the Regional Campus, access to counseling is excellent, but the accessibility of psychiatric services has required use of local psychiatrists with a copay. UMMS is exploring a variety of options including working with UMN's Boynton Health Services for a solution.

Regarding access during the clinical years, the UMMS has addressed these concerns by (1) instituting a Confidential Bridging Counseling (CBC) Service provided by an in-house PsyD to address the (sometimes) long waits for counseling services on the Central Campus and (2) changing the *Duty Hours Policy, Years 3 & 4* for clinical clerkships to include a half-day every other week for Independent Learning Time (including the ability to attend to mental health and wellness). The CBC service has been in place for one year and the response has been overwhelmingly positive, with over 150 students utilizing the service. The change to the *Duty Hours Policy, Years 3 & 4* has increased the ability of students to utilize mental health services/personal counseling during normal hours of operation.

Well-Being Programs/Programs that Facilitate Adjustment to Medical School

The UMMS has a comprehensive approach to improving wellness and adjustment to medical school. At the school-wide level, orientations on both campuses have expanded attention to increasing wellness, mitigating burnout, and addressing the inevitable challenges of medical education and training. Examples of two efforts that follow orientation include: movement to a pass/fail system for the preclinical phase and, as noted above, updating the *Duty Hours Policy, Years 3 & 4* to include a half day off every other week for Independent Learning Time. Additionally, both campuses have instituted student-led wellness programs with support from the respective Offices of Student Affairs. The UMMS has also increased support for student-to-student mentoring and other support services.

Despite these changes and ongoing efforts, student satisfaction with wellness programs suggests this remains an area for improvement. Higher satisfaction rates on the ISA for students in Years 1 and 2 is encouraging and suggests that some of the changes made to the preclinical phase are having the desired effects. The Regional Campus Year 2 students' satisfaction rates remain lower than their Central Campus counterparts, likely as a result of the issues around the transition to the Central Campus. This was an area of particular attention in the ISA and a cross-campus group is currently working on improving the experience of this transition.

Finally, in an effort to better understand UMMS students' mental health and wellness in real time, the UMMS has developed a Pulse Survey that allows the school to obtain data on all students in September of the academic year and then for one-eighth of students for each of the following 8 months so that over the nine months of the academic calendar all students have been re-surveyed. This data will allow the UMMS to get a better sense of cyclical changes in wellness and better identify root causes for times of high burnout or increased depression to better target our strategies.

Preventive and Therapeutic Health Care Services

The UMMS offers students high-quality, affordable health services, including a health insurance plan through Blue Cross Blue Shield Worldwide coverage and full-service healthcare facilities on both campuses with after-hours and emergency options. Satisfaction with these services has been around the national average, with some upward trending since 2016. The ISA suggests high satisfaction in the preclinical years and among PhD students in the graduate phase, predominantly as a result of their geographical location near the services. Students in the clinical years may be more geographically dispersed and working less flexible hours and therefore show satisfaction rates more consistent with the national AAMC

GQ data. For the 2019-2020 Academic Year, the addition of a half day of Independent Learning Time every other week to the *Duty Hours Policy, Years 3 & 4* was in part designed to improve students' access to health care (including mental health services) while on clinical rotations.

Health and Disability Insurance

All UMMS students are required to have both health and disability insurance from enrollment through graduation, which is available at a reasonable cost. Student satisfaction with health insurance has been in line with the national average for the past two years.

Immunization Requirements and Monitoring

The UMMS immunization policy is adequate and consistent with that of the Centers for Disease Control and Prevention (CDC), Occupational Safety and Health Administration (OSHA), and Minnesota State Law for health care workers. To be allowed to work in patient care settings, students must have the required immunizations. Monitoring is the responsibility of the Office of the Registrar on the Central Campus and the Office of Student Affairs on the Regional Campus.

Non-Involvement of Providers of Student Health Services in Student Assessment/ Location of Student Health Records

The UMMS has adequate policies and procedures to ensure the non-involvement of providers of student health services in student assessment and promotion. The UMMS *Separation of Academic Roles in Providing Healthcare Policy* clearly delineates that a health professional who provides healthcare services, including psychiatric/psychological counseling, cannot have any role in that student's assessment or promotion. In instances with potential for this to occur or when a conflict has been identified, faculty and students who have concerns are both expected to notify the Course or Clerkship Director (or designee) in a timely fashion.

Student Exposure Polices/Procedures

UMMS students report being highly satisfied with the adequacy of education about prevention and exposure to infectious and environmental hazards. The UMMS *Educational Exposure to BloodBorne Pathogens and Tuberculosis Policy* outlines preventative measures, exposure procedures, and cost coverage. Training and education in bloodborne pathogens and tuberculosis exposure is comprehensive and based on national standards (from OSHA), including a required online training module at the time of matriculation. Follow-up training occurs yearly.

At orientation, the *Needlestick Injury Protocol* is provided to all students on a quick reference card; the protocol is also available online. The single-page quick reference provides guidance for what to do and whom to contact in the event of a needlestick and includes the 24-hour hotline number.

During orientation at clinical sites, students are oriented to site specific procedures for exposures. For visiting students, policy information on exposure to infectious and environmental hazards is made available on the *Visiting Students* webpage. The webpage orients visiting students to the policies and procedures for reporting and managing exposure, which follow the same processes as for UMMS students.

Overview of the ISA

The UMMS was excited by the engagement of students on the ISA, with nearly 85% overall participation. The ISA survey contained 156 questions, 75 of which were predetermined by the LCME and 81 written by the students. The students defined a response as demonstrating overall satisfaction when at least 75% of respondents answered "highly satisfied" or "satisfied." Results are as follows: 76% of the questions met the definition of overall satisfaction, with 43% demonstrating overall satisfaction above 90% and 33% demonstrating overall satisfaction between 75% and 89%; 20% of questions indicated satisfaction between 50% and 74%; and only 4% of questions showed satisfaction rates comprising less than half the respondents. Across almost all questions one can see improvement year-over-year, with the Year 1 class generally the most satisfied.

Several strengths emerged from the more than three-quarters of questions with > 75% satisfaction:

- (1) Relationships with the administration: Including accessibility, awareness of concerns, and response to concerns of all of the main administrators named in the survey and the respective Offices of Learner Development on the two campuses
- (2) Relationships with Faculty: Including Faculty Advisors, Preclinical Faculty, and Clinical Faculty

- (3) Library Resources: Including quality and quantity of online and IT resources
- (4) Overall quality of the curriculum: Students were overall satisfied with the curriculum on the Regional Campus and the Central Campus with the exception of the Year 1 curriculum on the Central Campus. Of note, the first-year class was the most positive about Year 1, demonstrating efficacy in many recent changes designed to improve the Year 1 experience on the Central Campus.
- (5) Student Support Services: Including academic advising, tutoring, financial aid, and availability of health and disability insurance

In reviewing the questions (7) with <50% student satisfaction and questions (31) with satisfaction between 50% and 74%, six themes emerged:

- (1) Facilities: Including lecture halls; small group teaching spaces; student space at hospitals and clinics; access to study and relaxation space; and secure storage on both the campuses, hospitals and clinics
- (2) Amenities: Including parking and meals during clinical rotations, and housing (both short term and long term) for students coming from the Regional to Central Campus
- (3) Clinical Assessment: Including quality of clerkship feedback, grades as a reflection of performance
- (4) Career Counseling: Students were predominantly dissatisfied with access to specialty-specific advisors
- (5) Curriculum: Year 1 curriculum on the Central Campus
- (6) Regional Campus to Central Campus Transition and Integration

Other concerns, generally based on single questions, emerged and were captured on the ISA recommendations. The ISA report provided 15 top priority recommendations and an additional 34 recommendations. The UMMS is committed to serious consideration of all 49 recommendations. A strategic goal for this academic year is to satisfactorily address 75% of the students top 15 priorities and 75% of the remaining 34 recommendations by June 30, 2020. (The Student Council will define “satisfactorily”.) The UMMS has already started to address many top priorities, with five recommendations complete, six in progress, and four remaining. The UMMS administration looks forward to working with students to satisfactorily address as many recommendations as possible over the ensuing months.

Self-Study Summary

UMMS Medical Education Program Strengths

The UMMS has a strong leadership team that fosters excellence across all of its missions using a one-school, two-campus model.

The UMMS has robust financial resources to support the medical education program. These have been augmented by a recent renegotiation with our main clinical partner, Fairview Health Services, and the creation of M Health Fairview.

The UMMS is ranked #10 in producing graduates who pursue careers in primary care (especially Family Medicine) and in the 85th% percentile of medical schools for graduates who ultimately practice in rural locations

The UMMS is 39th out of 147 schools in total federal research grants and contracts (according to the AAMC) and 30th out of 147 schools in NIH funding (according to the Blue Ridge Institute for Medical Research).

The UMMS has made significant strides in recruiting underrepresented in medicine (UIM) minority students over the past several years, doubling UIM representation across the two campuses from the time of the last LCME Site Visit in 2012.

The UMMS has a long-standing commitment to American Indian and Alaska Native communities and is second in the nation for producing physicians of this heritage. The Regional Campus has just been awarded the AAMC Group on Regional Medical Campuses Star of Community Achievement Award for its work in building educational capacity with Native American communities.

The UMMS’ exceptional clinical resources span the state and provide students with a variety of experiences of depth and breadth, embodying the *UME Strategic Plan’s* Guiding Principle of standardizing outcomes while individualizing pathways. This includes six LICs that serve nearly one-third of UMMS students.

The UMMS supports its students in furthering social justice and serving communities by ensuring that all students participate in service learning projects. Students reporting participation in Community Service Research on the 2019 AAMC GQ is nearly double the national average (57.7% for UMMS students versus 32.7% nationally).

The UMMS has committed significant energy and resources to help stabilize student debt and tuition costs. Our current student indebtedness is below the national average for both public schools and all schools.

The UMMS is a recognized national leader in creating a new open-access journal in partnership with the University Libraries for the dissemination of scholarly activity that occurs on regional campuses.

UMMS Medical Education Program Challenges with Recommendations for Future Action

The UMMS has recognized that while it has doubled the number of UIM students per class over the last six years, it has an opportunity to improve diversity within its leadership and faculty. A Vice Dean for Diversity, Equity, and Inclusion is being recruited to support efforts to create a body of faculty and staff who better represent the communities served by the UMMS.

UMMS and UMN are aware that student mistreatment occurs at equal to or higher rates than national averages in specific areas, particularly related to sexism, as reported on the AAMC GQ. The UMMS and UMN are working aggressively together to create solutions and strategies to modify behavior and enhance reporting.

In the past, the UMMS' preclinical learning facilities have been inadequate and require expansion to align with best practices in pedagogy. Both the Central and Regional campuses have new facilities or renovations in progress that will significantly improve both student and faculty experience.

The UMMS is working on curricular concerns with Year 1 on the Central Campus, with some promising results. The work continues across the curriculum to better match its curriculum, instructional methods, and assessment with evidence-based education.

The UMMS is also working on improving clinical assessment to try to scale the outstanding results of the Education in Pediatrics Across the Continuum (EPAC) pilot. The UMMS, in conjunction with its primary clinical partner, Fairview Health Services, has approved a new Director of Workplace-based Assessment position (which is currently being recruited) and more than \$600,000 to pilot a Master Assessor and Coach Program.

The UMMS has had significant success in the Match. Students have indicated a need for improved specialty-specific career advising. Plans to address these concerns have been implemented.

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Appendix

Members of the Self-Study Task Force and Subcommittees:

UMMS Committee Membership		
Member Name	Role	Position
LCME Task Force		
Felix Ankel, MD	Faculty	Professor
David Bernlohr, PhD	Faculty	Professor
Austin Calhoun, PhD	Administration	Chief of Staff
Kevin Diebel, PhD	Faculty; Administration	Assistant Professor; Assistant Dean
Robert Englander, MD, MPH	Co-Chair; Faculty; Administration	FAL; Associate Dean; Professor
Chloe Hedberg	Medical Student	
Lindsay Johnson	Medical Student	
Sarah Kemp	Medical Student	
Christine Kiel	Administration	Deputy Chief of Staff
Michael Kim, MD	Administration	Assistant Dean
Badrinath Konety, MD, MBA	Faculty	Professor
Robin Michaels, PhD	Faculty; Administration	Associate Professor; Associate Dean
Pete Mitsch, CPA	Administration	Chief Financial Officer
Dimple Patel, MS	Administration	Associate Dean
Anne Pereira, MD, MPH	Faculty	Assistant Dean
Mark Rosenberg, MD	Faculty	Vice Dean
Timothy Schacker, MD	Faculty	Vice Dean
Yoji Shimizu, PhD	Faculty	MSTP Director
Amanda Termuhlen, MD	Faculty	Associate Dean
Paula Termuhlen, MD	Co-Chair; Faculty; Administration	Professor; Regional Campus Dean
Ezgi Tiryaki, MD	Faculty	Associate Professor
Jakub Tolar, MD, PhD	Co-Chair; Faculty; Administration	UMMS Dean; Professor
Claudio Violato, PhD	Faculty	Assistant Dean
Meghan Walsh, MD, MPH	Faculty	Associate Professor
Joseph Oppedisano, DAc	Administrative Support	Accreditation Director
Ali Niesen	Administrative Support	Special Projects Manager
Standards 1, 2, & 4		
Brad Benson, MD	Faculty	Professor
Genevieve Bern	Medical Student	
Rachit Gupta	Medical Student	
Salman Ikramuddin	Medical Student	
Emily Lawrence	Administration	Chief of Staff
Joseph Neglia, MD, MPH	Faculty	Professor
Andrew Olson, MD,	Co-Chair; Faculty	Assistant Professor
Mark Rosenberg, MD	Co-Chair; Faculty; Administration	Vice Dean
Peter Southern, PhD	Faculty	Associate Professor
Melissa Walls, PhD	Faculty-DU	Associate Professor
Lora Wichser, MD	Faculty	Assistant Professor
Standard 3		
Jeff Chipman, MD	Faculty	Professor
Michael Cullen	Co-Chair; Faculty	Director of Evaluation, GME
Jaya Dhami	Medical Student	
Rachel Heuer	Medical Student	

Andrew Kiragu, MD	Faculty	Assistant Professor
Taisha Mikell, MBA, MS	Administration	Pipeline Programs Director
Mary Owen, MD	Faculty	Assistant Professor
Jim Pacala, MD, MS	Faculty	Professor
David Stagg	MD/PhD Student	
Carol Sundberg	Administration	Manager, GME
Mary Tate	Administration	Minority Affairs and Diversity Director
Amanda Termuhlen, MD	Co-Chair; Administration	Associate Dean for Faculty Affairs
Sophia Vinogradov, MD	Faculty	Professor
Standard 5		
Paula Termuhlen, MD	Co-Chair; Faculty; Administration	Professor; Regional Campus Dean
Deborah Powell, MD	Co-Chair; Faculty	Professor; Dean Emeritus
Peg Brown	Administration	Classroom/Planning Services Manager
Austin Calhoun, PhD	Administration	OME Chief of Staff
David Jewison, MD	Faculty	Assistant Professor
Mojca Konia, MD, PhD	Faculty	Professor
Pete Mitsch, CPA	Administration	Chief Financial Officer
James Nixon, MD	Faculty	Professor
Johannah Scheurer, MD	Faculty	Assistant Professor
Jason Schneeweis	Administration	Regional Campus IT
Brian Sick, MD	Faculty	Associate Professor
Aubie Shaw, MD	Faculty - DU	Assistant Professor
Ryan Aberle	Medical Student	
Linnea Swanson	Medical Student	
Guy Guenther	Medical Student	
Standards 6, 7, 8, & 9		
Kirby Clark, MD	Faculty	Assistant Professor
Kevin Diebel, PhD	Faculty; Administration	Assistant Professor; Assistant Dean
Michael Downey	Medical Student	
Maggie Flint	Medical Student	
Zachary Hartnady	Medical Student	
Patty Hobday, MD	Faculty	Assistant Professor
Michael Howell, MD	Faculty	Associate Professor
Samuel Ives, MD	Faculty	Assistant Professor
Sarah Kemp	Medical Student	
Robin Michaels, PhD	Co-Chair; Faculty; Administration	Associate Professor; Associate Dean
Betsy Murray, MD, MPH	Faculty	Assistant Professor
Kaz Nelson, MD	Faculty	Assistant Professor
Anne Pereira, MD, MPH	Co-Chair; Faculty	Assistant Dean
Christina Petersen, PhD	Administration	Education Program Specialist
Aaron Rosenblum	Medical Student	
Heather Thompsom Boom, MD	Faculty	Assistant Professor
Claudio Violato, PhD	Faculty	Professor; Assistant Dean
Standards 10, 11, & 12		
Mustafa al' Absi, PhD	Faculty	Professor
Matthew Belinski, MEd	Administration	Admissions Director
Bryce Binstadt, MD, PhD	Faculty	Associate Professor
Ada Breitenbucher	Medical Student	
Amy Candy-Heinlein, MD	Faculty	Assistant Professor
Nacide Ercan-Fang, MD	Faculty	Associate Professor

Michael Kim, MD	Co-Chair; Administration	Assistant Dean
Nersi Nikakhtar, MD	Co-Chair; Faculty	Assistant Professor
Nicholas Reiners	Medical Student	
David Satin, MD	Faculty	Assistant Professor
Kathleen Watson, MD	Faculty	Professor
Ranveer Vasdev	Medical Student	

List of Common UMMS Terms and Acronyms

Term	Definition
IHealth Program	Interprofessional Education Curriculum; changed to <i>Better Together</i> program
AAMC	Association of American Medical Colleges
ACGME	Accreditation Council for Graduate Medical Education
AEC	Admissions Executive Committee
AOC	Admissions Oversight Committee
APRN/PA	Advanced practice registered nurse or physician's assistant
AHC	Academic Health Center (comprises the health professions programs)
ACR	Annual Course/Clerkship Review
BOR	Board of Regents
Boynton Health	Official Health Services for UMN students
CAO	Chief Academic Officer
CBC	Confidential Bridging Counseling; Counseling services offered within the UMMS to medical students on the Central Campus
CEC	Clinical Education Committee; a Subcommittee of the Education Council
CEI	Center for Educational Innovation
Central Campus	Campus in the Twin Cities, MN; offers Year 1-4;
CQI	Continuous Quality Improvement
ECM	Essential of Clinical Medicine (course)
Education Council	Curriculum Governance Committee
ESC	Education Steering Committee; an advisory committee to the Education Council
FAC	Faculty Advisory Committee
FLI2C	Fairview Longitudinal Integrated Interprofessional Clerkship
GME	Graduate Medical Education
HSL	Health Sciences Library
H&P	History and Physical {exam skills}
HST	Health Sciences Technology provided to the Academic Health Center
ILT	Independent Learning Time
IPE	Interprofessional Education
IPEC	Interprofessional Education Collaborative
ISA	Independent Student Analysis
LER	Learning Environment Rounds
LMS	Learning Management System
LIC	Longitudinal Integrated Clerkship
MAC	(Master Assessor and Coach
MEDS	Medical Education Development and Scholarship
MEOC	Medical Education Outcomes Center
MetroPAP	Metropolitan Physician Associate Program
M Health Fairview	Partnership between the UMMS and Fairview Health Services
PCRS+1	Physician Competency Reference Set Plus a Ninth UMMS Domain of Competence
PCRS	Physician Competency Reference Set

PGY	Post-Graduate Year
OCPD	Office of Continuing Professional Development
OFA	Office of Faculty Affairs
OME	Office of Medical Education
OSA	Office of Student Affairs
OSCE	Objective Structured Clinical Examinations
Regional Campus	Campus in Duluth, MN offering Year 1 and 2 instruction; students transition to the Central Campus for the clinical phase
REPA	Report of External Professional Activities
RMSP	Rural Medical Scholars Program
RPAP	Rural Physician Associate Program
STAR	UMN-wide Scholarship Tracking Tool
UIM	Underrepresented in Medicine
UME	Undergraduate Medical Education
UMMS	University of Minnesota Medical School (includes both the Central and Regional Campuses)
UMN	University of Minnesota (all campuses, schools, and programs)
UMP	University of Minnesota Physicians; multi-specialty group practice for UMMS faculty