

# TCMC Institutional Effectiveness and Quality Improvement Plan

*August, 2013*

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*Board approved August, 2013 with updated MD assessment plan*

# TCMC Institutional Effectiveness & Quality Improvement Plan

## Mission:

*The Commonwealth Medical College will educate aspiring physicians and scientists to serve society using a community-based, patient-centered, interprofessional and evidence-based model of education that is committed to inclusion, promotes discovery and utilizes innovative techniques.*

The founders of the College created TCMC with 2 important goals in mind: (1) create a college that would address the shortage, and the coming crisis, of available physicians in northeast Pennsylvania and (2) create programs that contributed to improving the quality of care and access to care for the people of this region.

TCMC has committed to this mission, and to the concept of quality improvement wholeheartedly. Every institution of higher education needs to assess itself against its mission and its public obligation. However, for an institution engaged in the education of health professionals it is a moral imperative. Health care knowledge is changing rapidly with new scientific understanding. Health professional students must commit to keeping abreast of changes, incorporating critical thinking to analyze changes and practice evidence based medicine. They must understand the principles of quality improvement, how to analyze systems for change and how to work as part of a team to bring about changes that improve outcomes and patient safety.

TCMC has embraced assessment and quality improvement on the curricular level with the goal of every TCMC student being conversant in the principles of quality improvement; at the operations level where those principles are used to evaluate and improve the operations of the College; and at the service level where we seek to fulfill the second part of the mission by working collaboratively with providers, payers and patients in the region to improve care. We are small enough to be able to seek to execute an integrated strategy vis a vis quality improvement.

As we move from start up mode—where everything had been developed from scratch it is time to systematically assess where we are, how what we developed is working and how the organization builds synergies to achieve mission and keep the cost of education reasonable. In keeping with the Middle States Commission on Higher Education Standard 7: Institutional Assessment:

*The institution has developed and implemented an assessment process that evaluates its overall effectiveness in achieving its mission and goals and its compliance with accreditation standards.*

## **Phase 1: Assessment through accreditation**

In the initial start up of the college the milestones of institutional effectiveness and quality improvement were measured simply through accreditation. TCMC, as the only freestanding medical school being created in the last thirty or so years has had more “accreditation site visits” to measure progress and quality of programs than any other new school. These applications and site visits and TCMC’s follow up from site visits served as the initial program of self study and self improvement.

2008:

- Pennsylvania Department of Education application filed
- State of PA site visit for degree granting authority
- LCME database & self study filed
- LCME Preliminary accreditation site visit & granting of preliminary accreditation

2009:

- MD & MBS Students begin
- Middle States Candidacy site visit & granting of Candidate status

2010:

- Title IV site visit
- TCMC files LCME provisional accreditation organizational self study, student self study & database #1

2011:

- LCME provisional site visit
- LCME puts TCMC on probation
- TCMC files action plan to fix LCME issues
- TCMC files provisional application #2 (databases, student self study and organizational self study)

2012:

- LCME site visit to 1) assess progress on probation items & 2) readiness for provisional accreditation
- LCME removes probation and grants provisional accreditation
- TCMC begins full accreditation process for LCME & Middle States

2013:

- TCMC full LCME accreditation filed (Nov) student self study, organizational self study & database
- TCMC files self study & document roadmap for Middle States

2014:

- LCME site visit for full accreditation
- Middle States site visit for full accreditation

In between site visits a curriculum was created and delivered, staff, faculty, administrators and yes, students recruited, oriented, taught and counseled. Over 900 volunteer faculty were recruited and trained. Grants were filed and research labs set up. Students, especially the Charter Class, were surveyed repeatedly for opinions, thoughts and ideas, and changes were made based on that feedback. And, a fledgling quality improvement program was developed.

The measurement of effectiveness was straightforward—was TCMC continuing to move ahead on accreditation, were MD students passing their national boards and matching successfully for residencies, were MBS students achieving their career goals, and were applicants to TCMC growing with desirable able students? Issues that continued to challenge TCMC were issues such as leadership turnover—startups not being a good fit for everyone, TCMC’s financial challenges, and never far from the collective consciousness-- the mission.

### ***Assessment Phase 2a: Measuring Student Performance and Academic Programs***

The MD program is competency based and the MBS outcomes based. All data is presented to the Academic Affairs Committee of the Board of Trustees annually, usually in the fall. A summary of the report is provided to the full Board. Each year as part of the assessment process TCMC conducts a Student Learning Environment Assessment that provides key information on student perceptions of the various environments in which they receive their education and allows the organization to monitor and address any identifiable issues.

### **MD Program**

The Commonwealth Medical College (TCMC) requires its medical students to develop competency in the areas of patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice. The ACGME’s Core Competencies were used when the curriculum was originally planned in 2007 and have remained in the forefront as we continue to review these objectives in light of accreditation standards and best practice for medical education in the 21<sup>st</sup> century. Our first cohort of 65 MD students arrived in August, 2009 and graduated in May, 2013. In August, 2013 we accepted a class of 100 students, another milestone for TCMC. The original expected levels of physician

competency attained must continue to be sufficient to allow TCMC graduates to be successful in their graduate medical education (residency) programs as well as to reflect the vision and mission of The Commonwealth Medical College. The MD Curriculum defines the milestones of competency development through the MD Program Objectives. Components of self-reflection and assessment are important for both faculty and students. Within each MD program course or clerkship, assessment and feedback has become an integral part of the culture of professional behavior and develops proclivity toward lifelong learning for faculty and students alike.

As a young medical school, evaluation and assessment are integral parts of curricular development, linking learning outcomes to authentic forms of assessment that provide indicators of a student's path of accomplishment as they matriculate through their program of study. The course directors and faculty have designed a program of instruction that incorporates active and interactive learning strategies along with formative and summative assessment opportunities to document the success of our students.

Key components of the MD curriculum include:

- The medical school functions as a distributive model of medical education with three Regional Campuses (North (Scranton), South (Wilkes-Barre) and West (Williamsport)) to provide students with experiences in diverse clinical settings.
- Clinical education starts on day 1 with students assigned to a "Learning Community" that corresponds to their Regional Campus, a family from that Regional Campus to follow for a continuity experience and a clinical mentor. Additional clinical experiences provide students with training in an interdisciplinary setting by working with health professional training programs at regional colleges and universities. Similarly, students work with local agencies that supply health related services to their community members, thus helping students to understand the breadth and depth of resources available to support patients and health care services within each region.
- Particular emphasis has been placed on admitting students with a propensity for community service. Students are exposed to community health improvement projects in their first two years of the MD Curriculum – a Community Health Research Project in their M1 year and a Quality and Safety Project in their M2 year.
- The curriculum is an integrated competency-based system. Competency-based implies a developmental curriculum with multiple measures to document the path to mastery. Each course has identified key measures that document the competencies contained therein and are clearly delineated in each course or clerkship syllabus. Narrative evaluations by course directors and clinical faculty are imperative for many of the competencies not measured by traditional examinations. Course based assessment provides for both formative and

summative measures.

- Students begin the M1 year with basic science that focuses on the normal human condition, move through an organ based system in M2 that addresses pathophysiology, a longitudinal integrated clerkship in M3 that enables students to see the interrelatedness and complexity of health care in the 21<sup>st</sup> century, and required subinternships and electives to round out their educational experience in M4. The M1 and M2 experience is primarily on the Scranton campus with three one week experiences at the student's regional campus (assigned upon entry). M3 occurs on the student's regional campus, and the M4 year can be taken anywhere in the TCMC regional system and can include up to four away electives.
- With the distribution of students across three regional campuses, consistency is provided through the use of the TCMC portal – where technology provides a common opportunity for academic activities and evaluation procedures.
- The LCME Database provides a roadmap for curricular development and assessment of MD Program competencies. This document details all aspects of the delivery of the TCMC curriculum addressed through the forty-seven standards that encompass the Educational Programs of United States Medical Schools.

## **Overall Review Process**

The TCMC MD Program Evaluation Plan covers a four year academic year program delivery cycle with data collection points throughout the four academic years. There are two types of reviews conducted – course and clerkship review and review of student progress. Both will be described in this document. Data collection for both processes are tied to the delivery of each specific course and clerkship with each program cycle year. This varies by program year and will be detailed below. The review of data is typically tied to mid-point and end-points the courses and clerkships, and is reviewed by appropriate Curriculum Committees and Subcommittees. In addition, student performance is reviewed after each course and clerkship by the Vice Dean, Associate Dean for Curriculum and the Associate Dean for Admissions and Student Affairs. Overall student progress is reviewed after each course or clerkship by the Committee on Academic and professional Standards (CAPS). Students experiencing academic difficulty are afforded the opportunity for remediation upon the recommendation of CAPS thus ensuring that all students meet all aspects of the program requirements. This two pronged approach of both individual student and overall course/clerkship review is essential to the overall success of our MD program.

Since TCMC has just completed the first four year cycle of their MD Curriculum, every course and clerkship in all four years is evaluated annually. This process ensures timely adjustment to feedback received from students and faculty colleagues to ensure a quality program. An Ad Hoc Committee of the Curriculum Action Committee on Course Evaluations and Course Reports is

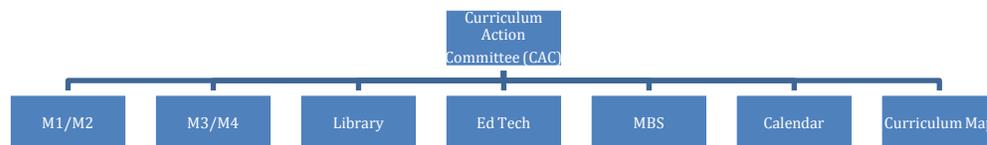
currently discussing longer term review processes for courses and clerkships that will maintain high quality but lessen the burden of time on course directors and faculty.

In addition to reviewing each course and clerkship, several benchmarks of success are used to review the program. Student scores on the USMLE Step 1 and Step 2 Examinations provide data regarding the quality of TCMC students' performance on these examinations compared to their peers nationally. Similarly, comparison of students' scores on NBME Subject Examinations in the M3 year to their national peers provides data on student performance in each of the core clinical disciplines. The AAMC Graduation Questionnaire (GQ), is the gold standard for medical school overall program evaluation, and is administered to students upon graduation from the college. The results for the first GQ became available to TCMC in July, 2013. Longitudinal data analysis with GQ data will begin in 2014. A Survey of Residency Directors will be sent in September 2013 to obtain data from residency directors about the charter class (2013) as they begin their residency programs. This survey will be repeated annually. Five- and Ten-year TCMC Post Graduation Surveys will be sent to graduates beginning in 2018(Five-year) and 2023(Ten-year).

### **The Curriculum Action Committee**

The Curriculum Action Committee (CAC) has central oversight for all curricular programs of The Commonwealth Medical College. There are seven subcommittees of the Curriculum Action Committee, two specific to the MD Curriculum – M1/M2 and M3/M4, one for the MBS Curriculum, and four others that share overarching responsibilities for all TCMC curricular programs – Library, Ed Tech, Calendar and Curriculum Map. All are chaired and staffed by members of the full time, part time and volunteer clinical faculty. Administrators with responsibilities relative to the curriculum attend to the CAC and the subcommittees ex officio.

**Figure 1: Structure of the Curriculum Action Committee (CAC)**

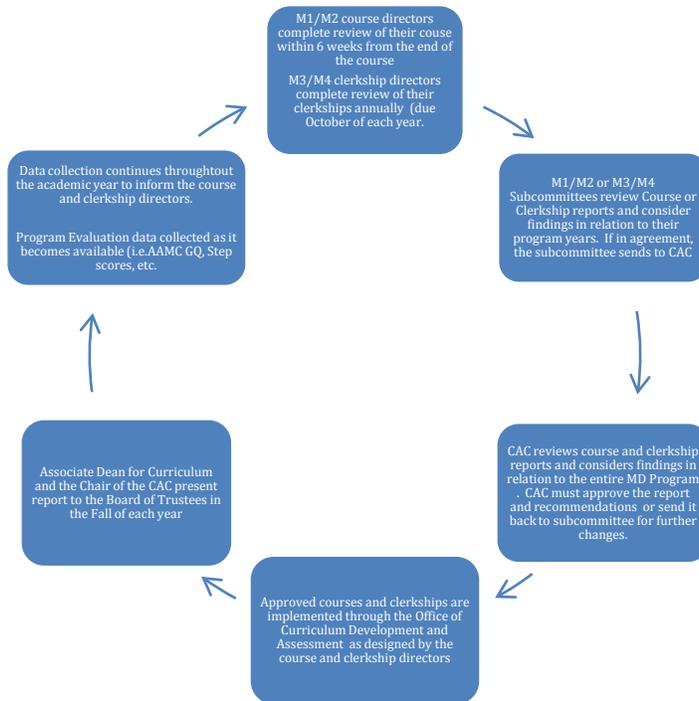


The Curriculum Action Committee (CAC) is charged with reviewing both the MD and MBS programs on an annual basis. The MD process begins with the M1/M2 and M3/M4 subcommittees who are comprised of course and clerkship directors for those years. The current review process requires each course or clerkship director (along with their teaching faculty) to do a self-study of their course reviewing learning outcomes and competency assessment through the review of student assessment data, relevant program evaluation data and course content review within the

overall curriculum map. Curriculum maps are reviewed and updated annually. Course evaluations are particularly important to the process to ensure curriculum relevance and student satisfaction. Both the curriculum map and all course evaluations and some program evaluation data is maintained on One45, a software company from Vancouver, BC. Data from the curriculum map is uploaded annually to the AAMC MedAPS program directly from One45. Further analysis across medical school programs is completed at the national level.

Since courses and clerkships start at different times during the academic year, it is impossible to define a specific period for annual evaluation similar to what one would find at an undergraduate college or university. Medical Education program evaluation is therefore on-going, as courses or clerkships complete, a report is generated by the course or clerkship director with input from the course or clerkship faculty, along with reviews of student evaluations and student progress within the course. Examinations and other assessment activities are analyzed. Other data such as NBME Subject Examination scores might be available to provide some insight as to how TCMC students compare nationally to their peers. Course or clerkship reports are compiled and reviewed with the appropriate subcommittee of the CAC for discussion of their results and impact on other areas of subcommittee purview. Subcommittees discuss the report and any changes that the course director and faculty are making to enhance the experience for students. The report is approved at the subcommittee level and sent to the CAC for discussion on a broader level across the entire MD curriculum. If the CAC reviews and accepts the report, the next iteration of the course or clerkship reflects the recommendations presented in the course report. If there are any questions or a need for additional information, the report can be sent back to the appropriate subcommittee for further discussion/review/changes before reconsideration of the CAC. The CAC considers the recommendations in the report in light of the overall MD curriculum and the MD Program Objectives, to ensure compliance with LCME standards.

**Figure Two: MD Program Review Cycle provides an overview of the program evaluation process.**



The MD Annual Program Evaluation Plan allows for review of program curriculum and student data. In addition, budget analysis and program unit analysis is completed for all program units serving the MD Curriculum such as Office of Curriculum Development and Assessment, The Clinical Skills and Simulation Center, the Gross Anatomy Laboratory, Basic Science Department, Clinical Science Department, Family, Community and Rural Health Department, Student Affairs, Center for Learning Excellence, among others. This is accomplished as part of the TCMC Institutional Evaluation and Assessment Plan.

Specific details of the MD Evaluation Plan are available in Table One: MD Annual Program Evaluation Plan.

The assessment of these competencies and of student learning is accomplished in a variety of ways:

<b>Activity Dates</b>	<b>Assessment Activity</b>	<b>Collection of Data</b>	<b>Product Due</b>	<b>Responsible</b>
Entire calendar year	Course Grades	End of courses or clerkships (within 4-6 weeks per LCME ED30 and TCMC corresponding Grading Policy)	Notice of incomplete grades sent to Vice Dean	Registrar
August thru July	Admissions Data	On-going	Admissions Projection – December Final Admissions Report - July	Associate Dean for Admissions and Student Affairs, Director of Admissions and MD Admissions Committee
August thru July	Review of narrative course data for each student	Student Narrative Reports for each course in MD Program	Review of narrative course data by Course Directors at the conclusion of each course using Competency Based Rubrics and written narrative paragraphs. Students experiencing difficulty will have their narrative reports reviewed by the Associate Dean for Student Affairs or the Vice Dean as needed.	Course Directors

<b>Activity Dates</b>	<b>Assessment Activity</b>	<b>Collection of Data</b>	<b>Product Due</b>	<b>Responsible</b>
At the conclusion of each course or clerkship (1)	Review of Student Records	Review of grades and student narrative reports by the Committee on Professional and Academic Standards (CAPS)	Students experiencing difficulty will meet with CAPS. A recommendation will be made by CAPS to the Vice Dean and if recommended, a remediation plan will be put into place for the student.	Registrar, Associate Dean for Admissions and Student Affairs, and Vice Dean
At the conclusion of each course or clerkship (2)	Course Evaluations by Students	Student Course Evaluations	Statistical Analysis and Qualitative Comments Reported to Course Faculty, Course Directors, Department Chairpersons, and the Vice Dean	Office of Curriculum Development and Assessment
April (annually)	Advising Evaluations by Students	Student Advising Evaluations	Statistical Analysis and Qualitative comments reported to the Center for Learning Excellence, and Advisors	Office of Evaluation and Assessment
August (annually)	MD Program Report Presented to Academic Affairs Committee of the Board	Review of MD Program Report		Vice Dean and Associate Dean for Curriculum
September (annually)	MD Program Report presented to TCMC Board	Review of MD Program Report		Vice Dean and Chair of Academic Affairs Committee

## MD Student Data Collection

The MD Program collects data for each MD student during the four years they are enrolled in the program. This data is compiled from a variety of sources: examination grades, USMLE Scores (after years 2 and 4), narrative review by course directors and faculty, standardized patient and clinical simulations, objective structured clinical examinations (OSCEs), laboratory practical examinations, presentations, preceptor ratings, NBME Subject Exams, essays, papers, and reviews of community research projects. Data collection varies by course and year in program.

Descriptions of all data collected during or immediately after a course or clerkship are detailed in course syllabi and the M1-M4 assessment data schedules (See Tables Two through Five) . Data collection begins with pre-matriculation surveys completed in the summer before the first year classes and concludes with the AAMC Graduation Survey and 5-Year and 10-Year Post Graduation Surveys.

In addition to the MD Program Evaluation Plan which addresses curricular improvement and student matriculation progress based upon student outcomes, components of the MD Program are evaluated through program unit offices that service the program. Student Affairs, Admissions, the Center for Learning Excellence, among others, all participate in the TCMC Institutional Evaluation and Assessment Plan at the unit level assuring that all components of the organization that touch the MD Program are carefully reviewed for mission integration and service to constituents.

## MBS Program Outcomes

1. Demonstrates critical thinking skills utilizing a scientific, evidence-based approach to understand human biology.
2. Demonstrates strong interprofessional and interpersonal communication skills facilitating a collaborative approach to science.
3. Demonstrates a thorough understanding of basic biomedical science and its application to human health.
4. Shows support for an environment of inclusion.
5. Demonstrates a skill set necessary to the development of a life-long learner.

<b>MBS Program Assessment</b>				
<b>Activity Dates</b>	<b>Assessment Activity</b>	<b>Collection of Data</b>	<b>Product Due</b>	<b>Responsible</b>
August thru June	Admissions Data	On-going	Admissions Projection – December Final Admissions Report - June	Graduate Advisory Committee and Associate Dean of Admissions & Student Affairs

December and April	Course Grades	Final Grades	Grade Report December and May	Registrar prepares and reviewed by Director of MBS Program and Associate Dean for Curriculum
August thru May	Creation of course portfolios by students	Final Portfolios	Review of Random Selection of Portfolios by Program Faculty in May using Portfolio Rubrics (minimum of two reviewers per student) And Portfolio Review Report - May	Portfolios transferred to Program Director for Distribution. Report Compiled based upon Rubric Analysis by MBS Program Coordinator and reviewed by MBS Program Director
December and May	Course Evaluations by Students	Student Course Evaluations	Statistical Analysis and Qualitative Comments Reported to Program Faculty, Program Director, Associate Dean for Curriculum and Vice Dean	Office of Curriculum and Evaluation
December	Graduate Survey	Graduate Survey mailed to all students enrolled in the previous academic year	Survey Results	MBS Program Director & Alumni Director
December and May	Course Reports by Faculty	Faculty Course Reports	Course Reports presented to MBS Program Director and the MBS Assessment Committee	Course Faculty
December and May	Course Reports reviewed by MBS Assessment Committee	Faculty Course Reports	Report submitted to MBS Subcommittee of CAC	MBS Assessment Committee
January and June	MBS Subcommittee Reviews recommendations Course Directors	Faculty Course Reports AND Report of MBS Subcommittee of CAC	Recommendations to MBS Program Director and CAC	MBS Subcommittee of CAC
February and July	CAC action on MBS Subcommittee Recommendations	Recommendations to MBS Program Director and CAC	Approval of Program changes	CAC
April	Advising Evaluations by Students	Student Advising Evaluations	Statistical Analysis and Qualitative comments reported Center for Learning Excellence, Advisors, MBS Program Director, Associate Dean for Admissions and Student Affairs and Vice Dean	Center for Learning Excellence
April	Advisor Survey	Faculty Analysis	Statistical Analysis and	Center for Learning

		of Advisees	Qualitative comments reported Center for Learning Excellence, Advisors, MBS Program Director, Associate Dean for Admissions and Student Affairs and Vice Dean	Excellence
May	Program Retreat	MBS Program Director, Program Faculty, Invited Related Areas	MBS Program Review Report and Recommendations Reported to Vice Dean, Associate Dean for Curriculum and MBS Curriculum Committee of the Curriculum Action Committee (CAC)	MBS Program Director

***Assessment Phase 2b: Quality Improvement as a mission based strategy***

From as early as 2008 TCMC has struggled with its role in the second part of its mission—having a positive impact on the quality of care, and improving access to care, in the region. Initially this was going to be achieved through the development of a clinical practice plan but financial exigencies prevented that strategy. In 2008 plans were drawn up and funding sought to develop a quality institute for TCMC. The national interest in quality improvement and the funding opportunities offered by the passage of the Affordable Care Act have opened doors for the creation of quality programs in moderate size communities nationally.

In developing its curriculum TCMC was able to incorporate quality aspects into the educational program. Both MD and MBS students receive training in quality principles. MD students, in their second year, all complete a community based quality improvement project and present them to the academic community at the end of the M2 year.

In 2012 TCMC made some modest commitments to beginning the internalization of quality improvement processes in its own operations. In the fall of 2012 ten members of management were certified in the Lockheed Martin Lean/6 Sigma program as green belts. In December nearly 160 faculty, staff, and students were trained in the principles of quality improvement as yellow belts in Lean/6 sigma. As part of that training the participants were asked to suggest processes that should be examined to see if they could be improved. And in 2013 ten of those projects were improved following steps laid out for “Kaizens” in quality improvement.

## ***TCMC Quality Improvement Plan 2013-2016***

1. Annual Institutional Effectiveness/Quality Improvement Survey
  - Completed in June each year
  - Reviewed by Leadership Council
  - Submitted/reviewed by TCMC Board of Trustees (September meeting)
  - Completed by every department at TCMC and every internal committee
    - Delineates how each program meets/forwards TCMC mission
    - Tracks data driven assessment/quality improvement at department level
      - Data utilized
      - Process/findings
      - Outcomes/projected benefits
    - Expectation each address at least one quality improvement activity a year
    - Sets goals for next year
    - Identifies one key measurement of success
    - Track community engagement efforts
  
2. Major initiatives: 2013 – 2016
  - Assess & revise as needed admissions process MD & MBS (2013)
  - Assess & revise as needed MBS program (2014)
  - Major projects will all have a green belt Lean/6 sigma person assigned as advisor to each group to assist with process
  - Student training as yellow belts offered in 2014 to all first year MD students & MBS students —in 2018 all graduates of TCMC trained as yellow belts
  - Commonwealth/Jefferson Quality Improvement Network 2013/2014
  
3. Other key initiatives:
  - Assess & revise planning process from 2012-2013 (2013)
  - Develop formal Institutional Quality Improvement process (2013)
  
4. Ongoing initiatives:
  - Offer yellow belt training in Lean/6 sigma house wide in 2013/2014
  - Offer green belt training to at least 5 other individuals each year
  - Have each green belt oversee 2 Kaizens for quality improvement (goal 8 per year)
  - Create culture of data driven assessment/quality improvement at TCMC

### ***Dashboard measures of mission achievement:***

1. Medical school admissions: % from PA & % from NEPA, gender & diversity
2. Long term (begin measuring in 2017) MD returning to NEPA & PA to practice & specialty choice, impact on regional quality of care
3. Volunteer faculty: Number of volunteer faculty and retention, Number of volunteer faculty engaged in educational program & retention
4. #s of articles in peer reviewed publications for faculty members
5. Number of donors from NEPA
6. Number of hospitals affiliated with TCMC in region
7. MD program: Step 1, Step 2 and Match results, Program directors survey & graduating students AAMC survey
8. MBS program: % of students moving on to professional schools, how MBS students perform in medical school
9. Student, faculty & staff engaged in region
10. Financial stewardship (donations, fiscal responsibility, foundation support, research grants)

### ***External Quality Improvement Commitment:***

The commitment to quality is both an internal and an external strategy for TCMC. As quality improvement is linked to the mission of the organization finding a cost effective means of impacting regional quality was important to the College. In 2013 TCMC convened a group of payers and providers from throughout the region to gauge the interest in developing a regional quality collaborative. Collaborative arrangements among hospitals and payers across the country have sprung up in the past decade focused on bringing competitors together to reduce costs and improve health care quality addressing issues such as fragmentation of care, improving handoffs in care delivery and preventing readmissions. These collaborative arrangements have been successful elsewhere. There was significant interest expressed at this meeting to engage a consultant (the Camden Group) to assess potential projects to work on, recommend a structure for the program and explore funding. TCMC will continue to take a leadership role in this development believing it to be the natural next step in the continuum of quality commitment—linking education, operations and regional care improvement.