
Rowan-Virtua SOM Outcomes Assessment Plan

Office of Assessment and Evaluation
&
Program Evaluation and Student Assessment (PESA) Committee



ROWAN-VIRTUA
School of
Osteopathic Medicine

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Introduction

The Rowan-Virtua School of Osteopathic Medicine (Rowan-Virtua SOM) prepares future physicians and scientists who are committed to improving health in New Jersey and throughout the nation. The school's educational program is designed to support this mission by developing clinically skillful, compassionate and culturally competent physicians from diverse backgrounds who are grounded in our osteopathic philosophy and ready to meet future healthcare workforce needs.

Rowan-Virtua SOM conducts ongoing program evaluation and student assessment to ensure congruence between the institution's stated educational mission and the actual outcomes of its academic program. In 2019, Rowan-Virtua SOM implemented a new Tensegrity curriculum with two specific tracks: Synergistic guided learning (SGL), a circular-pass system-based curriculum, and Problem-based learning, a double-pass system-based case-based learning curriculum. Both tracks are grounded in school-wide competency milestones (see appendix) and include discrete system **blocks**, as well as **intersessions**, **BRIDGE weeks**, and year-long **courses** (BICs).

The Outcomes Assessment Plan serves as a blueprint for the assessment of the institution's educational mission. The plan encompasses Kirkpatrick's four levels of evaluation 1) reaction, 2) learning, 3) behaviors, and 4) results in the assessment of key performance indicators [KPI] in **three core areas**:

- 1) **Curriculum/Program Effectiveness**
- 2) **Student Performance Outcomes and Competencies**
- 3) **School-based Trends and National Benchmarks**

Each of the core areas of assessment includes a continuous quality improvement process in which data are used to inform institutional change and curriculum reform. This process and its components are published on the Assessment and Evaluation website: <https://som.rowan.edu/education/academic/assessment/>.

Multiple software systems are used to support data collection on all KPIs and to enhance the accessibility of data to key stakeholders. Refer to the Appendix for a summary chart that outlines the assessment targets, outcomes measured, assessment level, data sources, timelines, and individuals involved in the continuous quality improvement (CQI) process for each of the three core areas.

Assessment outcomes are disseminated through a series of reports/presentations to key stakeholders as part of the school's CQI process. The reports/presentations elucidates trends and outcomes for each of the core areas of assessment and include national board trends, competency tracking, Benchmark and Capstone OSCE performance, mission-based educational trends, and post-graduate residency evaluation of Rowan-Virtua SOM graduates.

What is assessment?

Assessment is the systematic collection, interpretation and use of information about the effectiveness of the institution and its educational programs in an effort to improve student learning and achieve targeted outcomes. The assessment cycle begins with defining the desired outcomes which subsequently drives curriculum delivery and provides the foundation for the assessment process.

Rowan-Virtua SOMetrics Dashboard

An Assessment Dashboard called SOMetrics was launched in AY 2016-2017 to achieve greater transparency of data and to better support student performance tracking. The Assessment Dashboard streamlines the process of relaying information to key stakeholders and analyzes KPIs on students such as:

- National Benchmarks (COMAT, COMLEX, USMLE)
- Predictive Risk Factors
- Medical School Performance Measures (Grades, OSCEs, Evaluations)
- Competency Milestones/EPAs
- Curriculum Effectiveness/Comparability

The Rowan-Virtua SOMetrics Dashboard integrates data from a variety of sources to provide a centralized online platform for reporting Rowan-Virtua SOM student, curricular and school outcomes. The sources of data include, but are not limited to Rowan-Virtua SOM's:

- Curriculum Management System (One45)
- Exam Platform (ExamSoft)
- Simulation Center Management Software (LearningSpace)
- University Registration System (Banner)
- American Association of Colleges of Osteopathic Medicine Application Service (AACOMAS)
- National Board Examiners (NBOME & NBME)

Data is refreshed on a predetermined schedule from each of the above sources via advanced programming interfaces (APIs) and automated data downloads, which are then stored in the Rowan-Virtua SOM SQL data warehouse. Datasets are carefully analyzed and cleaned by the Assessment office to ensure accuracy, quality, & completeness before being utilized to compile a sequence of dashboard reports.

Module	Data Components	Evidence of Continuous Quality Improvement
Student Performance Profile	<ul style="list-style-type: none"> ● Individual student grades ● Year-to-date course grade tracking ● Grade averages ● Board exam and benchmark exam scores ● Competency/EPA progression ● Physician Skills Tracking ● Performance evaluation breakdowns ● Internal Exam Content Area Performance Breakdown ● Pre-medical school history and performance ● History of changes in a student's academic status 	<ul style="list-style-type: none"> ● Used by the Center for Student Success (CSS) and Academic/Student Affairs leadership to provide guided performance feedback to students and identify students in need of additional support. ● Used by the Student Academic Progress Committee (SAPC) to review students' overall academic performance and guide decision-making for student enrollment and/or remediation plans. ● Used by the Student Evaluation of Performance (STEP) Committee to analyze student progress in core competencies, to track their development as well-rounded physicians, and to make recommendations for improvement based on student career plans. ● Used by MSPE Advisors to help guide student career decisions. ● Disseminated to students at scheduled times to promote self-reflection and support success.
Student Academic Difficulty and	<ul style="list-style-type: none"> ● Academic Monitoring, Warning, Probation & Pending Dismissal alerts 	<p>Academic Difficulty Tracker</p> <ul style="list-style-type: none"> ● Used by the Center for Student Success (CSS) to identify and support students who have been

Module	Data Components	Evidence of Continuous Quality Improvement
COMAT Tracking	<ul style="list-style-type: none"> ● Student exam and course grades ● Failed/Missing COMAT and Department Exam scores with relevant previous performance indicators ● Student Rotation Schedules 	<p>flagged as experiencing academic difficulty according to our Academic Difficulty Policy.</p> <p>COMAT/Dept Exam Tracker</p> <ul style="list-style-type: none"> ● Used by the Center for Student Success (CSS) and Clinical Education to identify and schedule students who need to remediate or make up Clinical COMATs or Dept. Exams for core rotations.
School Profile	<ul style="list-style-type: none"> ● Geographic, demographic, and performance of entering students, grouped by year of admission ● Enrollment trends by academic year 	<ul style="list-style-type: none"> ● Used by the Office of Admissions to guide the admission process, and to identify trends among admitted students. ● Used by the Rowan-Virtua SOM Dean to track that we are consistently meeting the school's mission, and to better understand the geographic & demographic diversity of our student population.
National Benchmarks / Institutional Metrics	<ul style="list-style-type: none"> ● Comparisons of Rowan-Virtua SOM vs. national averages of COMLEX, COMAT, & USMLE performance with trends by academic year 	<ul style="list-style-type: none"> ● Used by the Office of Assessment and Evaluation to identify performance trends and any potential measures that prove predictive of future performance. ● Used by the Curriculum Committee to implement curricular policies & procedures to help further support student success. ● Used by Academic Affairs leadership & Course/Clerkship Directors to identify the need for additional resources in particular areas of the curriculum.
Curricular Analysis	<ul style="list-style-type: none"> ● Breakdown of Curricular Mapping & Exam Item Tagging (i.e. Competencies, EPAs, Organ Systems, Chief Complaints, etc.) ● Course final grade and individual component histograms and trends ● Student performance trends on written exams by tagging categories ● PESA review results ● Student feedback on course/clerkship and instructor/preceptor effectiveness ● National exam performance trends 	<ul style="list-style-type: none"> ● Used by the Office of Curriculum & Academic Affairs leadership, in collaboration with Course/Clerkship Directors, to ensure items within each of the mapping areas are adequately taught and assessed. ● Used by the Program Evaluation and Student Assessment (PESA) committee to retrieve individual course/clerkship performance and mapping/tagging information to be used as part of the course review process. ● Used by Course/Clerkship Directors, under the guidance of the Offices of Assessment & Curriculum, to incorporate longitudinal student feedback & average performance on graded components for any instructional or assessment changes within the course.
Admissions	<ul style="list-style-type: none"> ● Student performance metrics with overall risk distribution tracking (MCAT, GPA) ● Student mission-based characteristics 	<ul style="list-style-type: none"> ● Used by the Admissions Office & Admissions Committee to track students who have been admitted into the class to ensure all defined criteria are on track (performance measures and mission targets). ● Used by the Admissions Office Recruitment Staff to better understand the demographic and

Module	Data Components	Evidence of Continuous Quality Improvement
	<ul style="list-style-type: none"> ● Student diversity (ethnic/racial, gender identity, age, and disadvantaged status) ● Student geographic information (state/county of residence, previous schools attended) 	<p>geographic characteristics of currently admitted students to enhance recruitment efforts to targeted areas.</p>
Student EPA Development	<ul style="list-style-type: none"> ● Formative preceptor feedback on the entrustability of students in performing specific EPA skills ● Clerkship and hub site-specific tracking of volume and summary of preceptor ratings 	<ul style="list-style-type: none"> ● Used by the Assessment Office to track student EPA development trends by cohort, clerkship, and clinical hub site and identify students potentially in need of additional support. ● Also used by the Assessment Office to report to the Clerkship Committee a summarization of rating trends, and clerkships and/or hub sites in which the majority of EPA assessments are collected.
Student Cohort Outcomes Tracking	<ul style="list-style-type: none"> ● Entering and Graduating Class <u>characteristics</u> such as class size, performance metrics, demographics, diversity, and other background information ● Entering and Graduating Class <u>outcomes</u> such as academic difficulty, attrition/retention, number of years to graduate, yearly progression through medical school including any delays, and national and benchmark exam trends. ● PBL and SGL track comparisons of characteristics and outcomes 	<ul style="list-style-type: none"> ● Used by the Assessment Office to identify and report trends of entering student characteristics and outcomes, and efficiently respond to ad-hoc cohort-related inquiries. ● Used by the STEP Committee to track the volume, characteristics, and outcomes of students that make up each class and facilitate discussion of requirements and suggestions for cohorts being reviewed by the committee.

Curriculum/Program Effectiveness

New curriculum competencies were adopted by the Curriculum Committee in 2017 and reviewed/revised in July 2020. The school's competencies across six domains are aligned with national standards established by the American Osteopathic Association (AOA) and the American Association of Colleges of Osteopathic Medicine (AACOM). Osteopathic manipulative medicine, often separated as a 7th competency, is now integrated into each of the six core domains to elevate its importance in the curriculum and ensure integration in all the areas of instruction. Milestones have been established as expected levels of competencies as students progress through their medical school training. Each course, block, and clerkship in both the synergistic guided learning (SGL) and the problem-based learning (PBL) curriculum are expected to address and provide learning opportunities linked to the established competencies to develop effective measures to assess student performance and to ensure satisfactory achievement of the competencies and milestones.

Rowan-Virtua SOM's curriculum assessment plan examines the effectiveness of its SGL and PBL academic programs in the context of the expected competencies and includes distinct strategies for **1) Pre-clerkship** and **2) Clerkship education**. Outcomes that are measured as part of the overall assessment of the curriculum include reaction and performance measures as follows:

- 1) Course and Clerkship Evaluation (Anonymous Survey)– Students evaluate the effectiveness of each course and clerkship (see Appendix for evaluation process diagram and evaluation forms). Mean course and clerkship ratings are reported and tracked over time and compared to overall mean ratings as a component of the annual curriculum review process.
 - a. PBL students are asked to respond confidentially to PBL-specific questions on the sequence of cases, number of cases, accuracy, and relevance of cases in addition to the overall quality of assessment, learning resources and feedback, course organization, and instruction as applicable.
 - b. SGL students are asked to respond confidentially to SGL-specific questions on learning objectives, course content, integration of content and assessment, assessment for learning, instruction quality, course administration, and general course experience.
 - c. PBL and SGL students evaluate the shared curriculum courses together. In addition, at the end of MS I and MS II, both SGL and PBL students provide feedback on their overall curriculum including the overall structure and effectiveness of the blocks, case-based learning modules, intersessions, courses (Osteopathic Clinical Skills, Medical Scholarship, and Community Service Learning), as well as BRIDGE weeks. Feedback is sought on the effectiveness of the curriculum objectives, curriculum content, learning resources, feedback, assessment, curriculum administration, and general experience.
 - d. All clerkship students are asked to respond confidentially to questions on learning objectives, patient care experience, Osteopathic principles and practice, interprofessional practice experience, clinical teaching, student participation, feedback, administration, and overall clerkship experience.
- 2) Instructor, Preceptor, and Facilitator Evaluation (Anonymous Survey) – Students evaluate the effectiveness of each faculty instructor, facilitator, and preceptor. Mean faculty performance is compared to overall mean performance. For MS I and II all PBL students from both the Sewell and Stratford campuses rate each faculty facilitator on several skills and traits related to effective facilitation of learning, and each faculty instructor on preparation, content, presentation style, teaching skills, student interaction, and general instructor quality. For MS I and II all SGL students rate

each faculty instructor on preparation, content, teaching skills, teaching environment, student participation and feedback, as well as overall effectiveness. They also rate the effectiveness of facilitators for Case-based Learning and Anatomy labs. PBL and SGL students evaluate the shared curriculum faculty instructors together. For clerkships, all students rate their preceptor on teaching environment, teaching skills, student participation, feedback, professional role model, and overall effectiveness. (see Appendix).

- 3) Course and Clerkship Performance Outcomes – Mean final grade performance, pass rates, and trends in grade distributions are analyzed to evaluate the overall effectiveness of courses and clerkships. Trends in the Clinical COMATs and COMLEX performance by disciplines and content areas are compared across years and to national benchmarks. PBL student performance on national exams is also tracked and compared across years to both SGL students and national benchmarks, as well as among PBL students between the two campuses (Stratford and Sewell).
- 4) Comparability Analysis (Clinical Education only) – Rowan-Virtua SOM has a Comparability Analysis Policy which provides a detailed description of the process for ensuring effective clerkship training across all hub locations. In brief, a detailed comparison of key student performance indicators and student feedback of clerkships and preceptors by hub locations is conducted annually to ensure all hub sites provide comparable clinical education. The specific indicators that are compared include student clinical skills performance, national exam performance (COMLEX, COMAT), departmental assessments (written exams, OSCEs), student feedback of clerkships, and preceptors, and student self-reported time on-site and with preceptors. Differences in these indicators by hubs within each core clerkship are analyzed for statistical significance and summarized by clerkship.
- 5) AACOM Graduation Survey- The national graduation survey results are examined and presented to school leadership. School data are compared to national benchmarks to identify areas of relative strength and/or weakness, and strategies for improvement annually.
- 6) COCA Survey of Students Results – The COCA school survey is administered to students before a mid-cycle report and a comprehensive site visit. Academic Affairs facilitates survey completion. The final survey results are then disseminated to the Academic Deans (Admission, Assessment, Clinical Education, Curriculum, and Student Affairs). Issues are addressed by formulating strategies for improvement, which are brought forward to the appropriate committees for approval and implementation.

Curriculum Review Process

Rowan-Virtua SOM has a Course and Clerkship Review Policy and Procedure, which provides an in-depth explanation of the process and the forms that are used. Following is a brief summary of the components of the annual and comprehensive reviews that are completed.

An **annual review** of individual pre-clerkship courses and clerkships for both the SGL and PBL curricula is conducted at the end of each academic year. The Curriculum and Clinical Education Offices complete a review of all courses and clerkships, as well as instructors and preceptors, based on student survey data. The results are individually reported to the Course Directors, Department Chairs, and faculty, and are discussed at pre-clerkship and clerkship curriculum committees. In addition, pre-clerkship course review meetings are held between the Curriculum Office and the Course Director within two months following the delivery of the course. Specific strategies for improvement are identified and documented on a CQI log. These strategies are included in the Office of Assessment and Evaluation's comprehensive annual report on the curriculum based upon a focused review of evaluation results (survey results, student comment summaries, and PESA committee findings) and performance measures (pass rates, grade distributions, Benchmark & Capstone OSCE, COMSAE, COMAT, and COMLEX results, and

clinical hub site comparability). The report includes recommendations to the Curriculum Committee and key stakeholders.

A **comprehensive review** is also conducted on all required courses and clerkships once every three (3) years by the Program Evaluation and Student Assessment (PESA) committee. The process is designed to be an in-depth holistic evaluation of course/clerkship performance based upon multiple data sources; including, course materials, student performance data, ExamSoft item category review results, competencies and milestones performance, and student, director, and/or facilitator feedback as described below. A Course Director Report is completed by Course Directors for courses scheduled for an upcoming PESA review. The report is used to capture direct feedback from Course Directors on identified areas of strength, and document planned improvements (see Appendix for PESA Review Process)

Course Materials Reviewed [Source: Curriculum office / Learning Management System]

- 1) Reviewer-granted access to the learning management site
- 2) Syllabus and content present
- 3) Learning Issues (PBL Curriculum Only) [Source: PBL office]

Student Performance Data [Source: Course Director / SOMetrics Dashboard]

- 1) Final course grades
- 2) Written Exam grades
- 3) Composite Illumination quiz grade
- 4) Number of students who Pass/Fail the course
- 5) CBL; Practical/Diagnostic Exams and Procedures; SP Encounter/OSCE and Simulation with Debriefing; or other assessments
- 6) PBL Facilitator Feedback for Student (PBL Curriculum Only) [Source: PBL office]

Item Category Review [Source: ExamSoft/PESA Committee Reviewer]

- 1) PESA Category Item Review Results

Competencies and Milestones Performance [Source: Course Director/Simulation Center]

- 1) Category Performance Summary from ExamSoft or Learning Space

Student Feedback [Source: Curriculum Office]

- 1) Student Course Evaluation Survey for the current year
- 2) Student Curriculum Feedback Summary

Course Director Report [Source: Course Director]

- 1) Course Director Report Summary Results

The PESA committee's lead reviewer presents a summary report with recommendations to the entire committee for discussion. Based upon the results of the comprehensive review, a course receives an overall rating that focuses on the areas of commendations, recommendations, and required actions to gauge the performance of a course in the six domain areas reviewed (Course Materials, Student Performance, Item Category Review, Competency Milestone Performance, Student Feedback, and Course Director Report).

Exam Review Process

A post-hoc exam review process is an important component of the curriculum evaluation process. Immediately following the administration of each exam, the Office of Assessment and Evaluation conducts a review for exam effectiveness. Exam reliability, item difficulty (% correct), item discrimination (point biserial), distractor analysis, overall item performance, as well as the student grade distribution are evaluated. An exam analysis meeting is conducted by the Office of Assessment with the Block Director, the Phase Director/PBL Director, and the Pre-Clerkship Curriculum Dean. Items requiring immediate attention are carefully reviewed and a decision is made to either a) omit the item and rescore the exam, b) accept more than one correct answer, c) identify an item as miskeyed and rescore the exam with the updated key, or d) leave the item as-is. Exam outcomes are ultimately used to assess the effectiveness of instruction and the need for curricular changes in subsequent years.

Continuous Quality Improvement Process

Evaluation findings are disseminated widely to promote transparency, which is critical to ensuring the data supports continuous quality improvement efforts. Student survey reports are disseminated individually to Course and Clerkship Directors, Department Chairs, and the pre-clerkship and clerkship curriculum committees. A **follow-up meeting** is held between the Curriculum and Clinical Education offices with the Course and Clerkship Directors. The Clerkship Directors communicate information to the Hub Site Directors who then relay information to preceptors. These meetings track quality improvements that were implemented, or are planned; the feedback platform allows course and clerkship directors to report proposed changes in content, format, instruction methods, and other curricular innovations.

The **Annual Curriculum Review** report is disseminated to all Academic Deans, Chairs, Course and Clerkship Directors, the Curriculum Committee, PESA Committee. Presentations on the review findings are presented annually to the Curriculum Committee including student leadership.

The **comprehensive** course and clerkship reviews completed by the **PESA** Committee are summarized in a final report and disseminated by the PESA Committee Chair and the Associate Dean for Assessment to the Course Director, Department Chair, Phase I or II Director, all Academic Deans, and the appropriate Pre-Clerkship or Clerkship Committees. The respective course/clerkship directors present the report to the committee and offer planned improvements. Changes are documented to track quality improvements that enhance student training and meet accreditation standards. The Curriculum Office provides support to the Course Director and tracks accreditation changes while the Pre-Clerkship or Clerkship committee reports all changes implemented to the PESA committee, which closes the loop on the review process.

Student Performance Outcomes

The assessment of student performance outcomes focuses primarily on measurable student and graduate outcomes linked to the school's overall mission and the Rowan-Virtua SOM physician competency milestones. Longitudinal datasets and the SOMetrics dashboard have been established to track key performance indicators across all four years and to monitor student success. Data collected on each student includes admission data (MCAT, GPA, etc.), pre-matriculation program grade, medical school performance (# of block exam failures, block exam averages, competency progression, COMSAE, COMAT, COMLEX, etc.), graduate medical education placement data, and residency performance measures. This outcome data is examined at the level of the student and the school. The **Student Evaluation of Performance (STEP) committee** is charged with monitoring student developmental progress in competency performance, professional development, and overall resident readiness. The committee

reviews each student a minimum of three times between MS I – IV and is responsible for offering resources and making recommendations to support students' overall professional development, through the use of Competency Coaches and Physician Mentors. Outcomes of the committee decisions are communicated to students directly and may include any combination of suggestions (optional tasks), requirements (compulsory tasks that require follow-up with the Committee), and/or referral to the Student Academic Progress Committee for a formal review (see Appendix for STEP Process). The data included in the student performance dashboard and monitored by the Assessment office and the STEP committee are described below.

1) Competency Milestones and Entrustable Professional Activities (EPAs) Progression

Rowan-Virtua SOM competency milestones are specifically linked to assessments across the curriculum in both **courses** and **clerkships** and include both knowledge and performance components categorized into 3 performance levels: Proficient, Skilled, and Developing. Student competency progression is tracked across all four years of the curriculum whereas EPA assessment largely occurs during the clerkship curriculum. Competency data are included in the SOMetrics dashboard which is reviewed by the Student Evaluation of Performance (STEP) committee.

- a. Knowledge Component – Knowledge-based competency performance is assessed through internal written exams. Rowan-Virtua SOM competencies are specifically linked to exam items in all courses using ExamSoft. The SOMetrics dashboard includes a breakdown of student competency-based knowledge performance, for each competency milestone, over time to an established benchmark and in comparison to peers. Individual student performance by competency domain and specific competencies is recorded throughout each academic year and reported at predetermined intervals.
- b. Performance Component- Performance-based competency is assessed through **standardized patient (SP) encounters/OSCEs** across all four years. **Faculty performance assessments (Case-Based Learning, Problem-Based Learning, etc.)** are included in MS I/II pre-clerkship training, and **clinical preceptor ratings** are included in MS III/IV clerkship training. Graded SP encounters in the Osteopathic Clinical Skills course as well as the Benchmark OSCE which provide competency-based per-clerkship performance measures. During MS III, objective structured clinical examinations (OSCEs) are graded requirements in most of the core clerkships. There are two summative clinical skills exams that all students are required to pass – the **MS II Benchmark OSCE** and the **MS III Capstone OSCE**. The two multi-station OSCEs assess minimum competence in history taking, physical examination, interpersonal and communication skills, documentation, clinical reasoning, and OMT. Student performance and quality control analyses (e.g. item analysis, generalizability, etc.) on both summative OSCEs are reported to the Curriculum Committee and key stakeholders. The competency-based clinical preceptor evaluation form (see Appendix) provides competency-based reporting for each student by clerkship and longitudinally across all clerkships in One45. Performance data from both SPs/OSCEs and preceptor/faculty ratings are combined in the SOMetrics dashboard to reflect student performance compared to an established benchmark. Overall performance and the percentage of students performing within each performance level are also reported annually.

- c. Entrustable Professional Activities (EPAs) – EPAs are assessed during clerkship training by clinical preceptors using the Preceptor Evaluation of Student Instrument and discrete EPA formative assessment tools. EPA elements are also included in standardized patient encounters and OSCE assessments. Entering and discussing orders and prescriptions (EPA 4) is assessed during the Geriatrics and Pain clerkships OSCEs; Documenting a clinical encounter (EPA 5) is assessed during the Geriatrics and OMM clerkships. Oral presentation of a clinical case (EPA 6) is assessed during the Family Medicine, Internal Medicine, Geriatrics, Obstetrics/Gynecology, Pain, Pediatrics, Surgery, and Emergency Medicine clerkships.

2) National Testing Data

Performance on the COMAT Anatomical Sciences Targeted Exam during MS 1, national osteopathic licensure written examinations (COMLEX Levels 1, 2-CE, and 3), and clinical subject COMATs serve as objective assessments of basic science and clinical knowledge. The Assessment Office monitors pass rates and mean performance monthly, and also analyzes multi-year trends of school overall pass rates and mean performance, as well as by curricular tracks (PBL and SGL), and by campus (Stratford and Sewell). Pass rates and mean performance are also compared to national benchmarks and analyzed in relationship with our internal school performance (# of block exam failures, block exam averages, and exam content area performance) to identify strengths and weaknesses of our curriculum and to predict student success. Data are shared with Course/Clerkship Directors, Phase Directors, Academic Chairs, and Deans. Results are used by department education committees to inform curriculum reform. Scores, including performance by subject areas and disciplines, are used by the STEP Committee, PESA Committee, and the Curriculum Committees to target curricular improvements. Performance indicators of student success are used to inform policies on student progress and used by the Center for Student Success to advise and monitor struggling students, as well as to better prepare all students for success (board exams and residency placement). The data are also reported in the annual curriculum review, which is disseminated to all BIC Directors, Clerkship Directors, Phase Directors, PBL Directors, and Deans.

3) Admission Data and Pre-matriculation Performance

Pre-medical school performance such as MCAT scores and cumulative undergraduate science GPA are tracked and analyzed to identify early at-risk students who may need additional support to be successful. Admitted students who have at-risk performance on these metrics are required to enroll in the school's pre-matriculation program to strengthen their foundation and general learning skills before beginning their coursework. Those who struggled in the pre-matriculation program are then put on supporting programs from the beginning of their medical school training. Admission data, along with MS I and II medical school performance remain key indicators that Rowan-Virtua SOM tracks to predict student success on COMLEX I and USMLE I (optional for Rowan-Virtua SOM students).

4) Graduate Medical Education Placement Rates

Student success in the national residency match is an indicator of the competitiveness of our academic program. The percentage of students who match is compared to the national rate as a benchmark. The percentage of students matching into primary care residencies is also collected as an assessment of the school's primary care mission. Data are collected and analyzed by the Department of Academic Affairs and presented to the Deans, PESA Committee, Curriculum Committee, and Academic Chairs.

5) Residency Performance

Student's preparation for and success in their first year of residency, as well as the long-term residency attrition rate, are also important indicators of the effectiveness of the academic program. Each year ACGME generates a 5-year and a 10-year Look back Reports on Rowan-Virtua SOM graduates' overall and by specialty residency training attrition rates. ACGME also provides de-identified individual PGY1 residents Milestone performance data by mid-year of their first-year

residency training. The results from these ACGME reports were reported to the Deans, PESA Committee, Curriculum Committee, and Academic Chairs. Currently, Rowan-Virtua SOM is also participating in a national pilot project through the AAMC to assess performance in residency. Data that is reported is analyzed and shared with leadership to help inform our understanding of student preparation and the need for curricular changes.

Continuous Quality Improvement Process

Student performance outcomes in each of the areas are widely disseminated to promote transparency, which is critical to ensuring that data supports continuous quality improvement efforts. The Dean, Vice Dean, all Academic Deans, Chairs, Course and Clerkship Directors, the Curriculum Committee, STEP Committee and PESA Committee, and Academic Chairs Committee all serve a critical role in monitoring outcomes to ensure the effectiveness of the academic program, including identifying predictors of success, and ensuring students are competent to graduate.

School-based Trends and National Benchmarks

School performance measures are primarily focused on institutional success related to admission, matriculation, retention, and graduation. It is the goal of Rowan-Virtua SOM to recruit the best and brightest students and provide them with the environment and institutional support leading to high rates of retention, graduation, and program completion. In addition, the school is dedicated to maintaining its success in matriculating a gender-balanced and ethnically diverse class, while also focusing its recruitment pool within the State of New Jersey and its medically underserved areas.

The following outcomes are collected annually and tracked across years by the Admissions Office, the Registrar, and Alumni Affairs.

Admissions Outcome Measures

- 1) Academic rigor of accepted students: data are collected on admission GPA and MCAT scores to ensure that academically qualified students are matriculated. Data are also used in an analysis of predictors of student success.
- 2) Diversity of accepted students: admission data are monitored to ensure the school fulfills its mission of diversity. Measures include sex, age, race/ethnicity, under-represented groups in medicine, and first-generation to ensure a diverse class. A broader view of diversity data such as socioeconomic status, English proficiency, and gender identity are in the process of being incorporated into the cohort data tracking of incoming students to find ways to better support a diverse cohort of students.
- 3) Percentage of students from New Jersey: data are tracked to assess the school's success in recruiting in-state residents that would allow future placement of physicians in the state as a component of the school's mission.

Retention Outcome Measures

The outcomes listed below are used to assess overall student retention and academic success

- 1) Yearly Attrition and Retention Rate: specifying the number of students who were dismissed or withdrew and the number of students on a leave of absence.
- 2) Total Graduates by Year: the number of students who graduate each year.
- 3) Completion Rates by Entering Class: a table consisting of 5 years' worth of entering class data, with graduation completion rate after 4, 5, 6, and 7 years at Rowan-Virtua SOM.

Placement and Match Rate

Rowan-Virtua SOM's placement rate is compared to all COM's overall placement rate. Specific trends are also tracked as follows:

- 1) % of In-state match rate
- 2) % of Match to affiliated hub sites
- 3) % of Primary care
- 4) % of different specialties, entering scramble, and military

Alumni Measures

Alumni data are collected by the Office of Alumni Affairs on graduates to assess the effectiveness of our academic program and the accomplishment of our school's mission. The specific outcomes tracked by the alumni office are:

- 1) Graduates who complete residency training
- 2) Graduates with medical licensure
- 3) Graduates with board certification
- 4) Graduates who practice as primary care clinicians
- 5) Graduates who practice in medically underserved areas/sites
- 6) Graduates who practice in state and overall geographic area of practice

The Office of Alumni Affairs collects the data above annually through sources such as Doximity, US News Health, LinkedIn, National Provider Identifier, NJ State Board Medical Examiners Site License Verification, and Google searches. The data is shared with the Office of Assessment for inclusion in the Mission-Based Educational Trends Report.

Implementation of the Plan

The Outcomes Assessment Plan is developed by the Office of Assessment and Evaluation and approved by faculty PESA members. The plan is viewed as a living document that is adapted to respond to innovation in the field and changing needs within the school. Data in each of the three core areas is monitored by and presented to a number of key stakeholders (refer to Outcomes Assessment Plan summary table). These individuals ensure the implementation of the process and the analysis and dissemination of the resulting outcomes.

Appendix

- Outcomes Assessment Plan Summary Table
- Rowan-Virtua SOM Competencies and Milestone Grid
- Rowan-Virtua SOM Student Evaluation Data: Flowchart for Quality Improvement
- PESA Course/Clerkship Review Process Flowchart
- Annual Curriculum Review Process Flowchart
- STEP Processes
 - STEP Student Process Diagram
 - STEP Student Process Diagram - Requirement
 - STEP Committee Flowchart
- Exam Item Review Process Diagram

Rowan-Virtua SOM Outcomes Assessment Plan Summary Table

Assessment Target	Outcomes Measured	Level of Assessment/ Purpose of Assessment	Data Source	Submission Timeframe	Monitored By
Curriculum/Program Effectiveness					
Program Measures	<i>Student Course Evaluation(SGL & PBL)</i> - BIC evaluation results - Clerkship evaluation results - BIC/Clerkship comments on strengths/ areas for improvement - Class reports to the Curriculum Committee - Instructor/Preceptor/Facilitator evaluation results and comments for strengths/ areas for improvement - SGL & PBL Program evaluation results	➤ Kirkpatrick – Level I Reaction. Used to assess learner perceptions and improve training based upon identified trends in individual course/clerkship	Academic Affairs One45	End of term/ Academic year Routinely updated on the dashboard	Senior Associate Dean Assessment Dean Pre-Clerkship Curriculum Dean Clinical Education Dean Academic Affairs Course/Clerkship/Phase Directors Department Chairs Curriculum Committee PESA
	<i>Course (SGL & PBL) /Clerkship Performance</i> - Exam grade distributions - Final grade distributions across years - Clinical Eval. grade distributions across years - OSCE grades distribution across years - COMLEX, COMAT performance by Discipline/Content Area and Overall - Correlation of course/clerkship data with national testing performance (COMLEX, COMSAE, Clinical COMATs), and with Benchmark and Capstone OSCEs - Annual Curriculum Review Report - Hub site Comparability Analysis - One45 Student Log Analysis - PESA Course Review Reports - Exam item Review Analysis	➤ Kirkpatrick – Level II Learning Assess the amount of learning and determine if the curriculum adequately prepares students	Academic Affairs Assessment Office One45 NBOME	End of term/ Academic year PESA- End of BIC/Clerkship (three-year cycle) Item Review- End of each exam Routinely updated on the dashboard	
	<i>AACOM Graduation Survey</i> - Graduation survey and Trends	➤ Kirkpatrick Level I – Reaction Evaluate student experience at SOM. Overall satisfaction with school curriculum, services, support and preparation	AACOM	Annually	
	<i>COCA Survey of Students</i> - Summary description of student feedback		COCA	Annually	

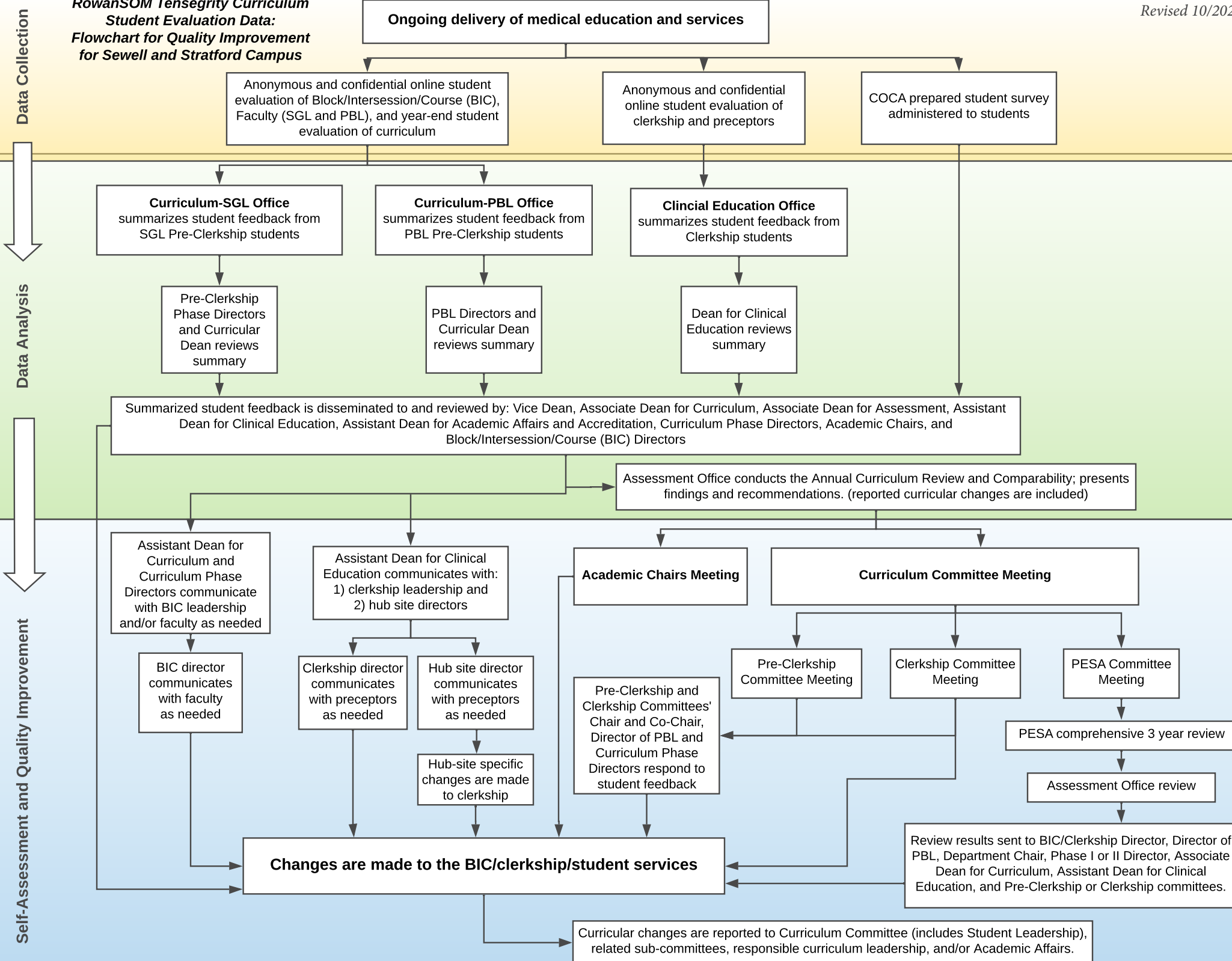
Assessment Target	Outcomes Measured	Level of Assessment/ Purpose of Assessment	Data Source	Submission Timeframe	Monitored By
Student Performance Outcomes					
National Test Performance	<p>National Test (NBOME & NBME) Performance</p> <ul style="list-style-type: none"> - COMLEX, USMLE, COMSAE, COMAT Annual results – school/national mean, pass rates - Comparison of longitudinal trends - Comparability of PBL, SGL and campuses - Correlations of test performance with other student data (Admission metrics, medical school performance) - Mission-based Educational Trends Report 	<ul style="list-style-type: none"> ➤ Kirkpatrick – Level II/III Learning and Behavior ➤ Against national benchmark ➤ Identify predictors of success ➤ Required for graduation and medical licensure 	<p>Assessment Office NBOME NBME</p>	<p>Spring – COMSAE, COMAT Anatomical Sciences Targeted Exam</p> <p>End of test cycle COMLEX I, II, III & USMLE I, II, III</p> <p>Routinely updated on dashboard and report out</p>	<p>SOM Dean Senior Associate Dean Assessment Dean Academic Chairs Curriculum Committee PESA STEP</p>
Competency Performance	<p>Student Grades and Competency Assessments</p> <ul style="list-style-type: none"> - Longitudinal tracking of student performance (exams, OSCEs, grades) across 4 years - Content area, systems, and competency performance from ExamSoft category tags - Student competency performance dashboard including data from written exams, performance in practice (One45 evaluations), and performance in simulation (OSCEs & practical exams) - Benchmark and Capstone OSCEs - EPA Assessment via preceptor evaluations 	<ul style="list-style-type: none"> ➤ Kirkpatrick Level III – Behavior Measure to assess the transfer of learning to practice skills ➤ Track longitudinal competency performance at both student and class level 	<p>Assessment Office One45 ExamSoft Learning Space</p>	<p>End of term/ Academic year</p> <p>STEP Review- End of MS I, beginning and end of MS II, beginning of MS III, and beginning and end of MS IV.</p> <p>Routinely updated on dashboard</p>	<p>Senior Associate Dean Assessment Dean CSC PESA STEP</p>
Residency Performance	<p>Postgraduate GME Placement Summary Report</p> <ul style="list-style-type: none"> - Match results: national match rate <ul style="list-style-type: none"> - % of In-state match rate - % of Match to affiliated hub sites - % of Primary care - % of different specialties, entering scramble, and military <p>Residency Performance</p> <ul style="list-style-type: none"> - ACGME 5-yr & 10-yr attrition rate - ACGME PGY1 student Milestone performance - AAMC Residency Readiness survey by residency directors - COMLEX III Performance 	<ul style="list-style-type: none"> ➤ Kirkpatrick Level IV – Results Match positions graduates for first year of postdoctoral training demonstrates how academically competitive SOM is compared to other schools. ➤ Assess student readiness for PGY 1 year 	<p>Academic Affairs AACOM NRMP</p> <p>AACOM & AAMC NBOME</p>	<p>Annually</p> <p>Annually</p>	<p>SOM Dean Senior Associate Dean Assessment Dean Clinical Education Dean Curriculum Committee GME PESA</p>

For follow the below link for access to the

[Rowan-Virtua Student Osteopathic Core Competencies and Milestones](#)

RowanSOM Tensegrity Curriculum Student Evaluation Data: Flowchart for Quality Improvement for Sewell and Stratford Campus

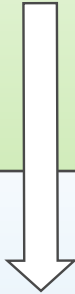
Revised 10/2022



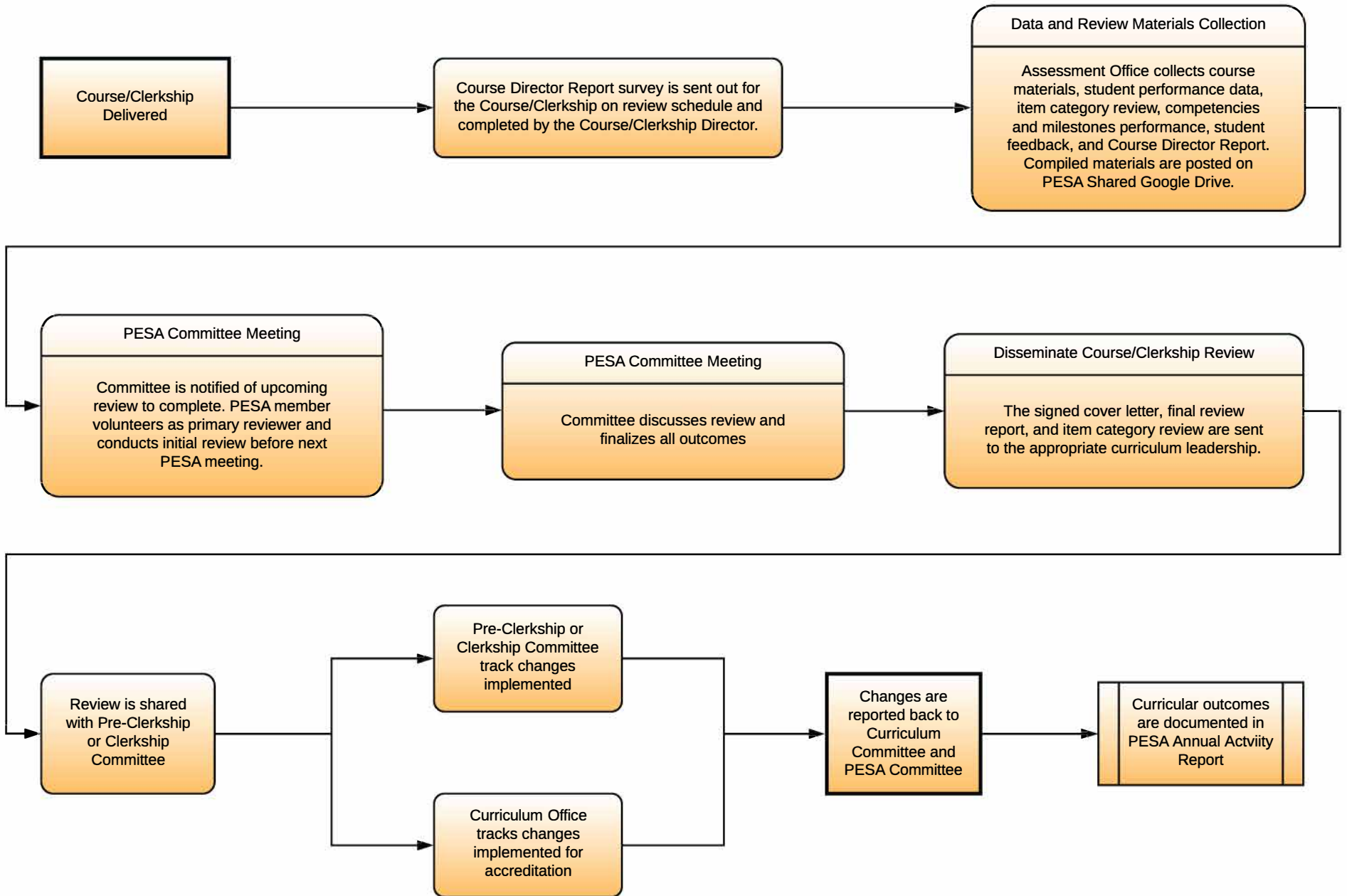
Data Collection

Data Analysis

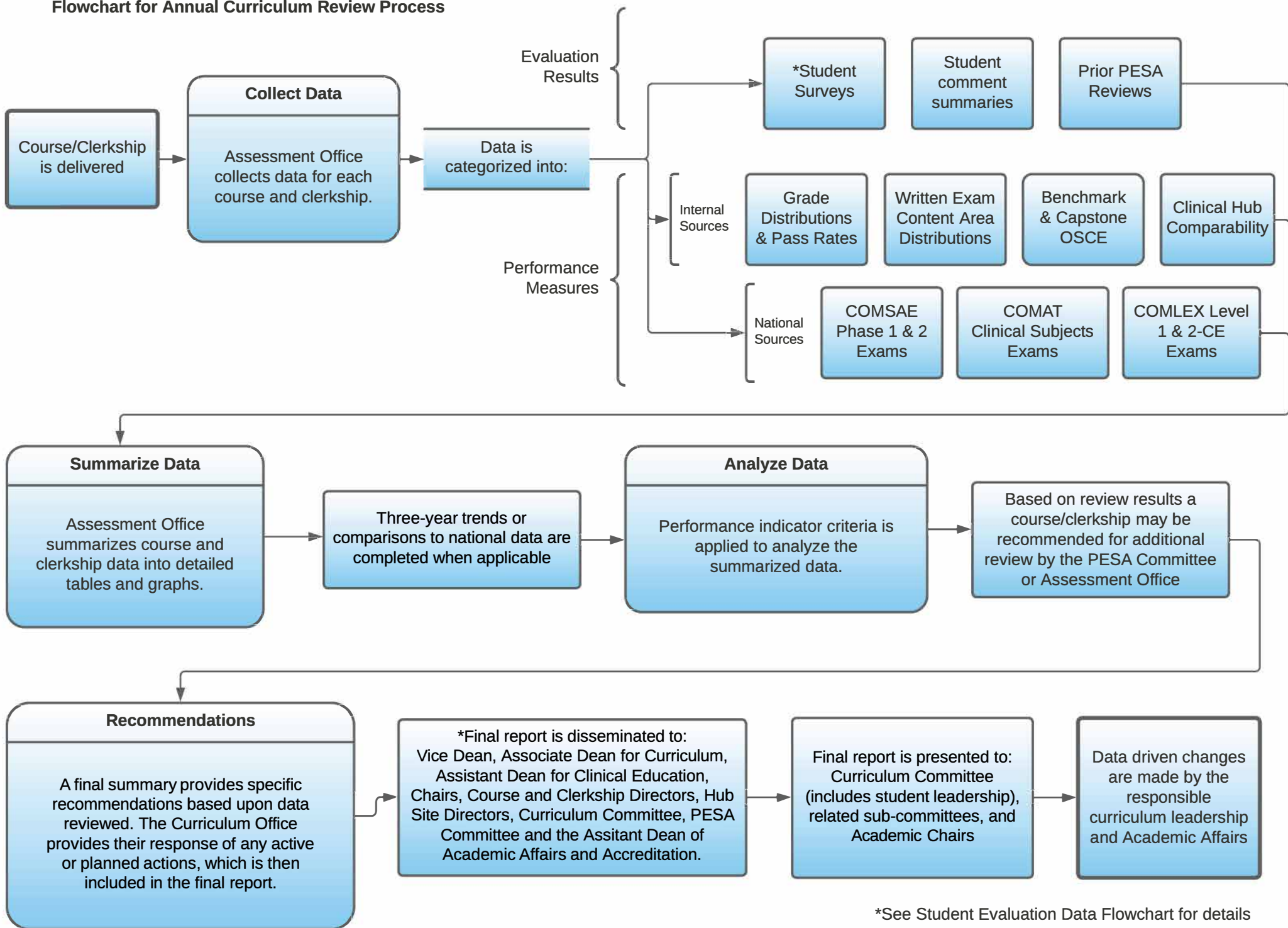
Self-Assessment and Quality Improvement



**Rowan-Virtua SOM Tensegrity Curriculum
Program Evaluation and Student Assessment Committee (PESA)
Flowchart for Course/Clerkship Review Process**

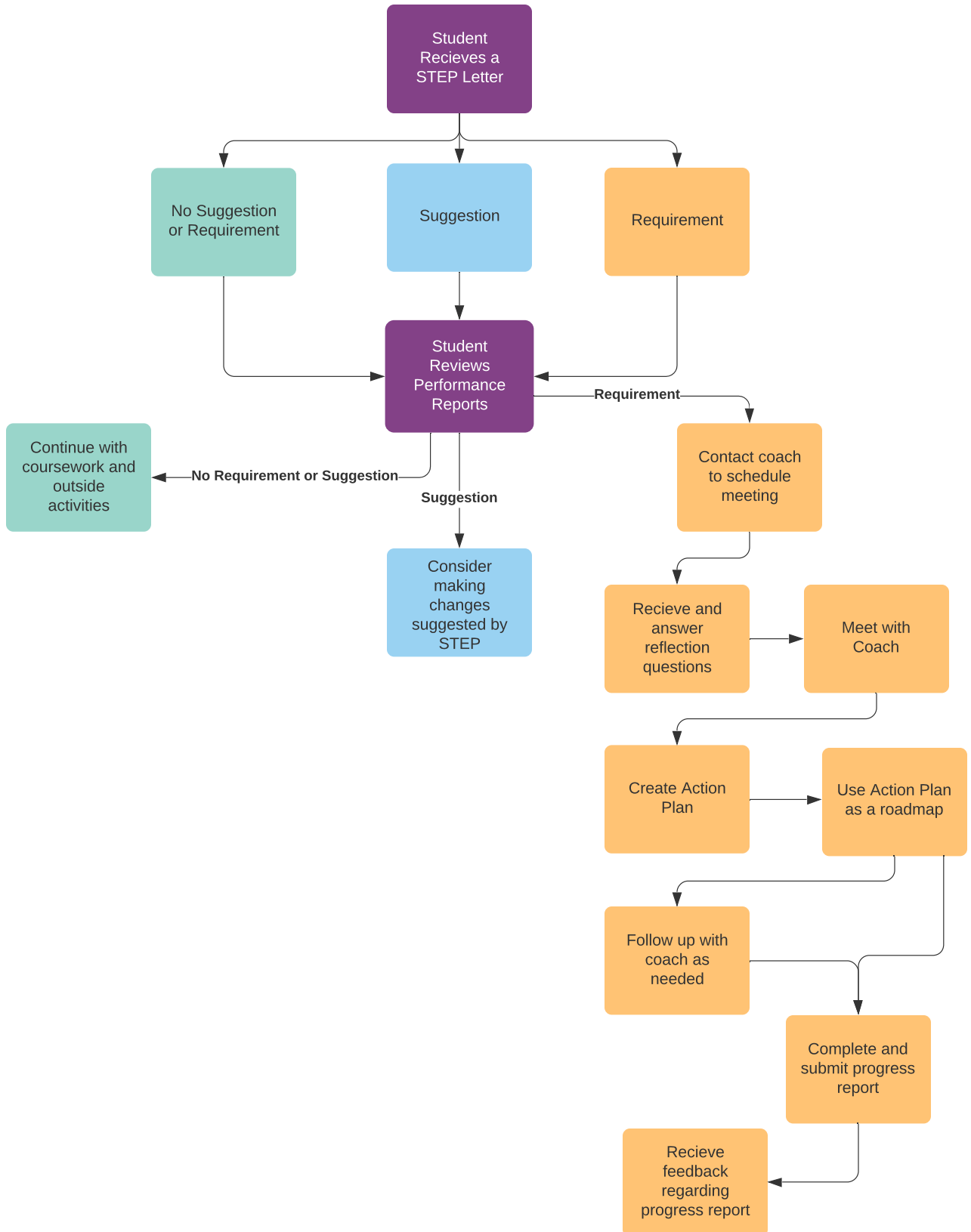


**Rowan-Virtua SOM Tensegrity Curriculum
Flowchart for Annual Curriculum Review Process**

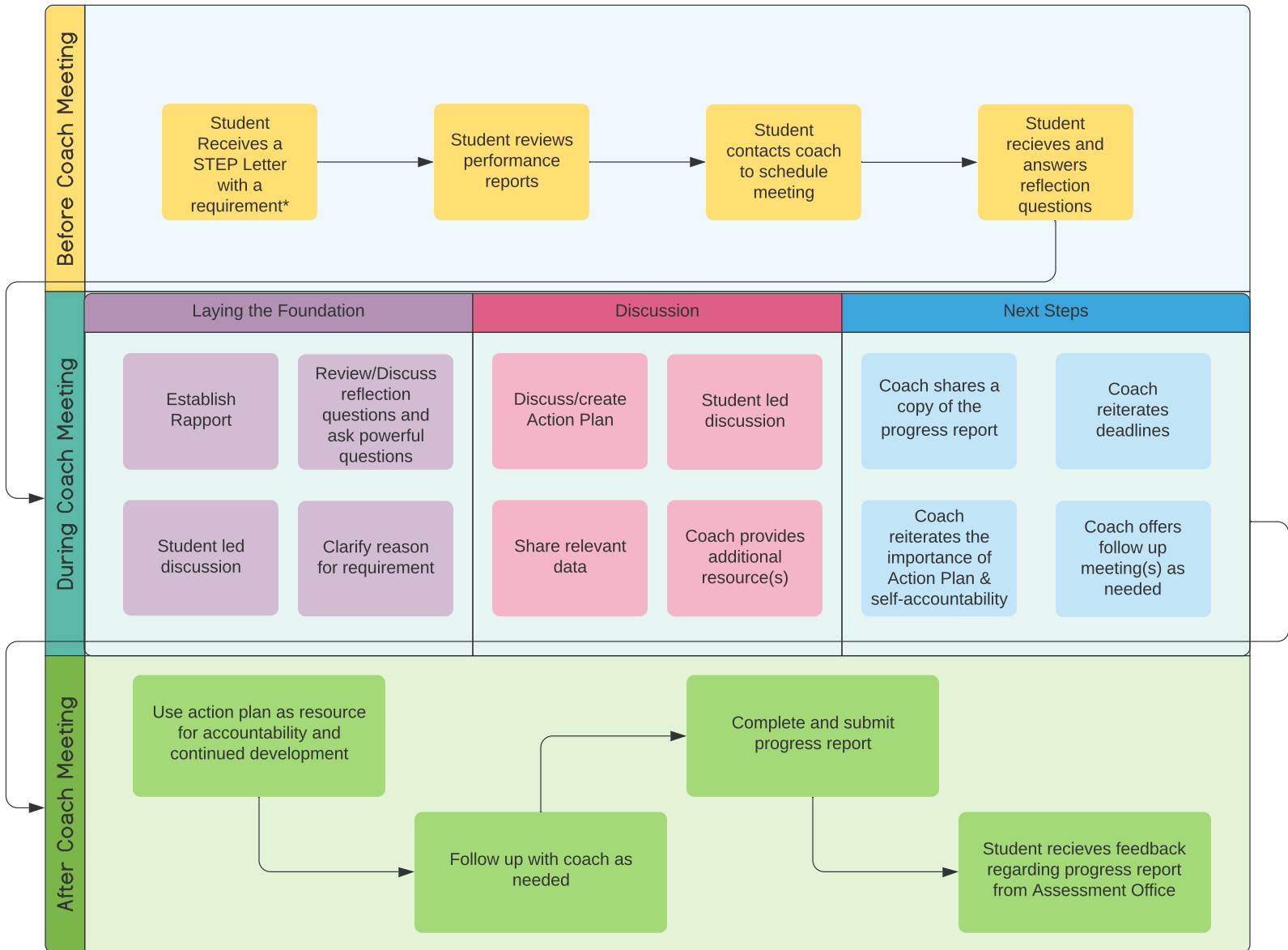


*See Student Evaluation Data Flowchart for details

STEP Student Process



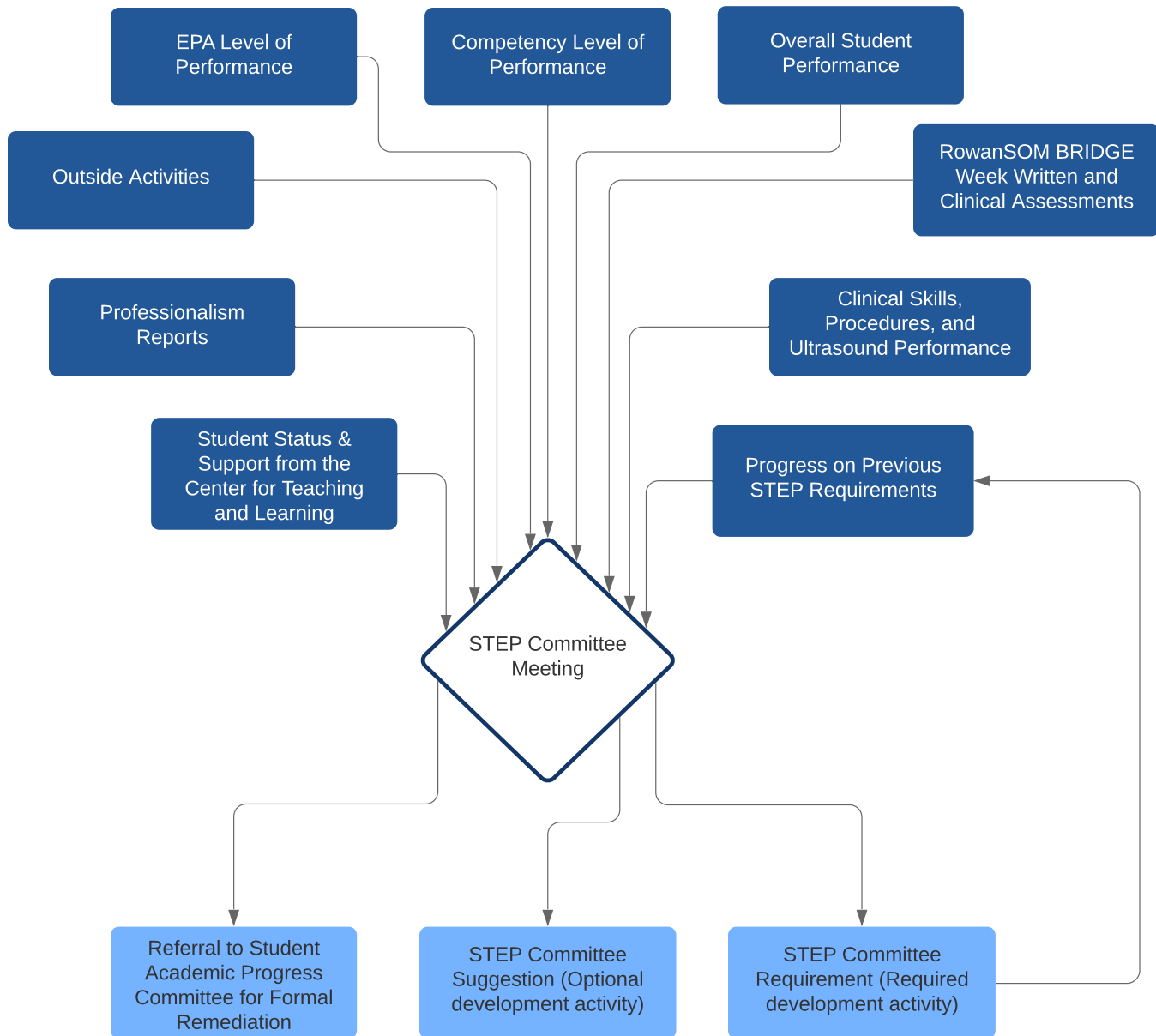
Student Process - Requirement



*some students may also receive a suggestion from the STEP Committee

STEP Committee

Data Collected, Analyzed, and Summarized by the Assessment Office Prior to STEP Committee Meeting



Decisions/Outcomes of STEP Committee Meetings

Exam Review Process

