

## Element 8.1-1 Research Strategic Plan

*A COM must produce and publish a strategic plan for research and scholarly activities that documents how the COM intends to contribute to the advancement of knowledge through research and scholarly contributions.*

Rowan University School of Osteopathic Medicine has developed a Strategic Framework for fiscal years 2020-2024 that guides academic, clinical, and scholarly activities and helps to advance our mission “to prepare future physicians and scientists who are committed to improving health in New Jersey and throughout the nation.” RowanSOM’s mission includes three guiding principles that describe how we educate future osteopathic physicians, conduct research, and provide patient care. The second principle, “to advance research, innovation, and discovery to improve health and solve the medical challenges of today and the future,” embodies the research and scholarly mission at RowanSOM.

MISSION
<b>Rowan University School of Osteopathic Medicine prepares future physicians and scientists who are committed to improving health in New Jersey and throughout the nation. To advance our mission we:</b>
<ul style="list-style-type: none"><li>• Develop 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</li></ul>
<ul style="list-style-type: none"><li>• Advance research, innovation, and discovery to improve health and solve the medical challenges of today and the future, and we</li></ul>
<ul style="list-style-type: none"><li>• Provide exceptional patient-centered care, with an emphasis on primary and inter-professional team-based care that responds to the needs of the community, including underserved and special needs populations.</li></ul>

The Framework was developed by a team led by the Dean of Rowan University School of Osteopathic Medicine and diverse faculty and administrative leaders from the basic sciences and clinical departments. A strategic planning retreat was held to ensure that each member had an opportunity to provide input into planning. Goals were developed for each of the three guiding principles. Objectives for each of the goals were identified, and a timeframe for their achievement.

Three research and scholarly activity goals were identified through the planning process, including 1) develop and train scientists who will contribute new knowledge in the biomedical sciences, with a focus on cell biology, molecular biology, neuroscience and osteopathic principles; 2) serve as the premier center for biomedical, clinical and educational research in South Jersey; and 3) enhance and support a culture of curiosity and inquiry throughout RowanSOM and the Rowan Graduate School of Biomedical Sciences (GSBS). Measurable objectives for each of the goals have been developed, and the Dean and Senior Associate Dean for Research meet regularly to review progress and develop action plans to ensure the objectives are achieved.

RESEARCH AND SCHOLARLY ACTIVITY GOALS
<b>Advance research, innovation, and discovery to improve health and solve the medical challenges of today and the future. (From Mission)</b>
<b>Goal 1</b> - Develop and train scientists who will contribute new knowledge in the biomedical sciences, with a focus on cell and molecular biology and osteopathic principles, through creative and collaborative research and scholarship.
<b>Goal 2</b> - Serve as the premier center for biomedical, clinical, and educational research in South Jersey
<b>Goal 3</b> - Enhance and support a culture of curiosity and inquiry throughout RowanSOM and Rowan Graduate School of Biomedical Sciences.

RowanSOM has its own Science Center with approximately 50 basic science faculty members that conduct research and teach in both the osteopathic medical school curriculum and in degree programs offered by the Graduate School of Biomedical Sciences. The Graduate School offers doctoral and masters-level programs in cell and molecular biology, histopathology, molecular pathology and immunology, neuroscience, anatomical sciences and general biomedical sciences, including a D.O./Ph.D. program: <https://gsbs.rowan.edu/>. The Science Center is a 95,000 square foot building that houses state-of-the-art research facilities and GSBS administrative offices. The building is located on the RowanSOM main campus adjacent to the Academic Center, where students attend medical school classes. Because faculty from GSBS conduct externally-funded research that provides research opportunities in their laboratories for osteopathic medical students, maintaining the infrastructure of the Science Center and GSBS is a key priority of RowanSOM's Strategic Plan for research.

High-quality students at the doctoral and master's levels are essential for performing research and maintaining active research labs within GSBS where medical students can participate in research. At the same time, students enrolled in non-thesis Master's and Certificate Programs not only enhance the biomedical workforce in New Jersey but also generate revenue that can support student and faculty research, help sustain research programming, and further enhance the availability of research opportunities for medical students. As a result, training scientists who will contribute new knowledge in the biomedical sciences is **Goal 1** of RowanSOM's Strategic Framework for research. Ongoing initiatives have included revising RowanSOM's web pages to highlight faculty research to attract students interested in research, developing an online application portal to make it easier for students to apply to GSBS programs, developing a GSBS Society of Research Scholars to attract high-quality Ph.D. students, adding an additional staff member in RowanSOM's Center for Student Success to tutor GSBS students to help with retention, and other initiatives. Currently, there are 40 Ph.D. students enrolled in GSBS; 10 new PhD students started in the Fall 2022. We have over 150 students enrolled in our PhD and master's degree programs in GSBS.

Efforts to build RowanSOM into a premier center for biomedical, clinical, and educational research in southern New Jersey (**Goal 2**) has met with considerable success. Three key objectives were identified to enhance RowanSOM's health impact on the community, including increasing externally funded research support, recruiting, hiring, and retaining faculty researchers committed to RowanSOM's mission, and highlighting achievements to demonstrate RowanSOM's health impact among residents of New Jersey. In FY2020, RowanSOM ranked fourth among all colleges of osteopathic medicine in the United States for funding from the National Institutes of Health. Over \$2.9-million was awarded through 10 research grants. In FY2022 the total annual extramural funding for RowanSOM was \$24.3 million. This represents an increase of more than 40% compared to FY 2021.

Recognizing the need to further expand federal funding to clinical faculty, in 2016, RowanSOM hired staff to promote project development and facilitate proposal development among the clinical faculty with a focus on population health and education and training. Federal funding for projects to help the elderly, persons with opiate use disorders, and youth at risk for HIV increased 66% from \$1,159,147 in 2016 to \$3,406,463 in 2020.

RowanSOM also embarked on a national search to hire research faculty with a successful history of obtaining NIH funding. Since 2016, GSBS hired eight faculty members, including a new chair for the Department of Cell Biology and Neuroscience and a faculty member at the M.D./Ph.D. level that conducts translational research on fragile X syndrome. RowanSOM research and scholarly achievements have been extensively covered in the local news media. Most recently for having implemented a large scale COVID-19 vaccination clinic on its main campus that provided over 52,000 COVID-19 vaccines to the community; development of a mobile vaccine COVID clinic for the homeless through funding from the New Jersey Health Initiatives and Robert Wood Johnson Foundation, identification and measurement of a biomarker for early-stage Alzheimer's disease through NIH funding, and for engaging overdose survivors in treatment through a mobile clinic in partnership with the Atlantic County Sheriff through a grant from the Substance Abuse and Mental Health Services Administration.

Enhancing and supporting a culture of curiosity and inquiry throughout RowanSOM and Rowan GSBS, especially among RowanSOM medical students, is **Goal 3** of RowanSOM's Strategic Framework for research. Key achievements include the hiring of a Director of Medical Scholarship in 2019 who has developed a Medical Scholarship Curriculum. Currently, all medical students receive the curriculum throughout all four years of their medical school training. Increased opportunities for research among students has been achieved through expansion of externally funded research stipends and mentors through the Summer Medical Research Fellowship (SMRF) program funded through the New Jersey Health Foundation and through a new summer Clinical Research, Education, And Training Experiences (CREATE) program, funded by HRSA. In the summer of 2021, over 40 medical students were enrolled in one of these research programs.

New initiatives to promote interdisciplinary collaborations and translational research were also developed. Most notably, an interdisciplinary pain biomarker program funded by the American Osteopathic Association was developed with a vision of future studies on how OMM impacts pain biomarker levels. A collaboration between the Chair of Family Medicine at

RowanSOM, the Political Science and Economics Department, a biochemist at Cooper Medical School of Rowan University, and CAMcare Health Corporation (an FQHC) received seed funding from the Camden Health Research Initiative to implement a Primary Care Vaping Assessment, Prevalence, and Economics (VAPE) Project to study vaping prevalence in three different clinical settings with the ultimate goal of developing a new vaping assessment, pulmonary evaluation, brief intervention and referral to treatment model called VAPE-BIRT.

<https://som.rowan.edu/documents/rowan-som-strategic-research-framework.pdf>

## RESEARCH STRATEGIC FRAMEWORK ACTION PLAN

**(2) GOAL:** Advance research, innovation and discovery to improve health and solve the medical challenges of today and the future.

**(a) OBJECTIVE:** Develop and train scientists who will contribute new knowledge in the biomedical sciences, with a focus on cell and molecular biology and osteopathic principles, through creative and collaborative research and scholarship.

**(i) OUTCOME:** Increase the quality and quantity of the student applicant pool both from NJ and nationally.

### 12 MONTH ACTION ITEMS

<b>ACTION ITEM 1:</b> Develop a new on-line application for doctoral and masters programs using the Slate application software and tracking system					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	7/15/2019	12/21	University central application services – Jeff Hand	New Slate Application System launched in July/August 2021.	Completed
NOTES:	Met several times with central application services regarding implementation of the Slate application solution and provided GSBS-specific information. They were not able to meet the timeline of September 2020, however, the Slate Application System was implemented in July/August 2021.				

<b>ACTION ITEM 2:</b> Increase webpage traffic and google search visibility to GSBS webpage					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	8/15/19	6/23	Marketing	Increased web views, higher google visibility and increased student recruitment	On track
NOTES:	GSBS website completed Sept. 2020. Working with Marketing now for website search engine optimization. We are working on a contract with an outside company to use social media & google ads to increase web traffic and convert web clicks/visits to completed applications. Plan to implement for the next upcoming application cycle to increase applicant pool and student recruitment.				

**(2) GOAL: Advance research, innovation and discovery to improve health and solve the medical challenges of today and the future.**

**(a) OBJECTIVE:** Develop and train scientists who will contribute new knowledge in the biomedical sciences, with a focus on cell and molecular biology and osteopathic principles, through creative and collaborative research and scholarship.

**(ii) OUTCOME:** Increase the number of students in RowanGSBS while maintaining the quality of education.

#### 12 MONTH ACTION ITEMS

<b>ACTION ITEM 1:</b> Enhance recruitment and marketing efforts for all GSBS graduate programs					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	9/20	9/23	GSBS Program Admissions and recruitment committees will develop program specific recruitment & marketing strategies	Increase the number of first year matriculated students by 10% for Fall 2023.	On track
NOTES:	Additional recruiting events have been added to the schedule. Recruiting and admissions interview visits for applicant finalist in the MCBN program have been restructured to offer the applicants a more positive and interactive experience with current students, faculty and the admissions committee. Recruitment videos have been created for all GSBS programs to enhance student recruitment.				

<b>ACTION ITEM 2:</b> Create a GSBS Society of Research Scholars for recruitment of highly competitive PhD student applicants.					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	9/1/19	12/21	Funds for scholarship/supplement for Research Scholars	Recruit two (2) additional Research scholars by Fall semester 2023	Completed
NOTES:	Dean's Research Scholarship created for 2021 recruitment cycle; fund will be used to enhance recruitment of highly competitive PhD applicants in future years				

<b>ACTION ITEM 3:</b> Recruit additional staff member for Center for Student Success to provide tutoring support for GSBS students					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	9/2020	12/21	Budget	Hire of new CTL staff for GSBS support	Completed
NOTES:	New staff person hired in Fall 2021				

**(2) GOAL:** Advance research, innovation and discovery to improve health and solve the medical challenges of today and the future.

**(a) OBJECTIVE:** Develop and train scientists who will contribute new knowledge in the biomedical sciences, with a focus on cell and molecular biology and osteopathic principles, through creative and collaborative research and scholarship.

**(iii) OUTCOME:** Increase the number and quality of master's and certificate level programs aligned with university and workforce research needs.

#### 12 MONTH ACTION ITEMS

<b>ACTION ITEM 1:</b> Launch new Master of Science in Anatomical Sciences program in GSBS (M.S. and Certificate)					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	4/1/19	9/22	University Board of Trustees and state of NJ approval required;	Program approved and launched by fall of 2022	Completed
NOTES:	COVID initially delayed. Certificate approval will be launched first. Pre-approval by subcommittee of Board of Trustees was granted; GSBS Executive Council approved in January 2020. An outside consultant completed the program review in the Spring 2021 as required for NJ state and university approval. Master of Anatomical Sciences program approved by the University in June 2021 and program launched for Fall 2022.				

**(2) GOAL: Advance research, innovation and discovery to improve health and solve the medical challenges of today and the future.**

**(b) OBJECTIVE:** Serve as the premier center for biomedical, clinical and educational research in South Jersey.

**(i) OUTCOME:** Achieve \$30M in funded research grants / sponsored projects.

#### 12 MONTH ACTION ITEMS

<b>ACTION ITEM 1:</b> Submit an increased extramural grant applications and contracts					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	6/20	12/23	Requires continued support of the Office of Sponsored Programs	Volume and value numbers are 10-15% higher than June 30, 2022.	On track
NOTES:					

<b>ACTION ITEM 2:</b> Receive increased extramural grants and contracts					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	6/20	12/22	Requires continued support from the OSP Pre and Post - Award Office.	Dollar amount of extramural grants and contracts received is 10-15% more than June 30, 2021.	Completed
NOTES: As of June 30, 2022 the FY22 total annual extramural funding for RowanSOM was \$24.3 million; this represents an increase of more than 40% compared to FY21.					

#### 12 MONTH ACTION ITEMS

<b>ACTION ITEM 1:</b> Establish and equip a basic science research laboratory on the second floor of the RowanSOM Academic/Clinical Building on the Sewell Campus					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	4/1/19	9/21	Budget approved for purchase of laboratory equipment.	Equipment ordered, delivered and installed by 7/1/21	Completed
NOTES: A fully equipped laboratory (800-900 sq. feet) will contain a Becton Dickinson FACS Cell Sorter, a Keyence Fluorescence Microscope, freezers, refrigerators, centrifuge, etc. for use by basic science faculty either based or spending significant time on this campus. Equipment was delivered and installed by Fall of 2021.					



**(2) GOAL: Advance research, innovation and discovery to improve health and solve the medical challenges of today and the future.**

**(b) OBJECTIVE:** Serve as the premier center for biomedical, clinical and educational research in South Jersey.

**(ii) OUTCOME:** Recruit, support and retain funded researchers committed to our mission and to the growth of the research enterprise.

#### 12 MONTH ACTION ITEMS

<b>ACTION ITEM 1:</b> Recruit one (1) new funded research faculty in the Department of Cell Biology and Neurosciences.					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	6/20	6/22	Faculty Affairs, Human Resources, Dean's Office, CFO	Faculty members on board and grants transferred and active at Rowan University.	On track
NOTES:	Faculty search committee and recruitment efforts completed by August 2022. A candidate was identified and a letter of offer approved and sent to the candidate. Anticipate faculty joining RowanSOM in 2023.				

<b>ACTION ITEM 2:</b> Recruit new faculty clinical researcher for joint appointment between NJISA & Cell Biology/Neuroscience					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	6/20	6/23	Faculty Affairs, Human Resources, Dean's Office, CFO	Hired by 4/23	On track
NOTES:	Recruitment discussions underway with a physician-scientist who would be a joint hire between NJISA (40%) and the Department of Cell Biology and Neuroscience (60%). This faculty would transfer an NIH RO1 grant to RowanSOM.				

<b>ACTION ITEM 3:</b> Recruit two (2) new funded research faculty in the Department of Molecular Biology.					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	4/1/19	6/23	Faculty Affairs, Human Resources, Dean's Office, CFO	Faculty members on board and grants transferred and active at Rowan University.	On track
NOTES:	Search is underway; several good candidates have been identified. Interview are underway in the Summer/Fall 2022 with an anticipated June/July 2023 start date.				

**(2) GOAL:** Advance research, innovation and discovery to improve health and solve the medical challenges of today and the future.

**(b) OBJECTIVE:** Serve as the premier center for biomedical, clinical and educational research in South Jersey.

**(iii) OUTCOME:** Demonstrate the impact of Rowan Research on health outcomes and quality of life in New Jersey.

#### 12 MONTH ACTION ITEMS

<b>ACTION ITEM 1:</b> Have at least one research feature story per quarter in local print, news or on-line media.					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	6/2020	12/23	Rowan University marketing department	Four research stories will appear in news media during the evaluation period.	YELLOW
NOTES:	At least one research/funding related story has been featured.				

**(2) GOAL:** Advance research, innovation and discovery to improve health and solve the medical challenges of today and the future.

**(c) OBJECTIVE:** Enhance and support a culture of curiosity and inquiry throughout RowanSOM and Rowan GSBS.

**(i) OUTCOME:** Develop and implement a research course for all RowanSOM students and increase opportunities for student research.

#### 12 MONTH ACTION ITEMS

<b>ACTION ITEM 1:</b> Ensure sustaining Medical Scholarship curriculum and student research/independent study projects through providing adequate number of faculty mentors.					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	9/20	12/23	Adequate number of faculty mentors		GREEN
NOTES:					

<b>ACTION ITEM 2:</b> Expand the number of summer medical research fellowship (SMRF) stipends and mentors					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	6/20	6/23	SOM, donors, New Jersey Health Foundation, HCOP grant	Increase the number of stipends and mentors by 20%.	GREEN
NOTES:	Stipend support increased to 40 students for Summer 2022; was able to use federal work study funds to support some additional SMRF stipends				

**(2) GOAL:** Advance research, innovation and discovery to improve health and solve the medical challenges of today and the future.

**(c) OBJECTIVE:** Enhance and support a culture of curiosity and inquiry throughout RowanSOM and Rowan GSBS.

**(ii) OUTCOME:** Establish a research program in all GME residency programs that meets the requirements for ACGME.

#### 12 MONTH ACTION ITEMS

<b>ACTION ITEM 1:</b> Collect current needs assessment for residency program research requirements for ACGME from Program Directors.					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	6/20	12/23	Consultation with GME Program Directors and ACGME guidelines.	Full list of needs requirements per program	YELLOW
NOTES:	Need to determine what is needed to satisfy each residency research requirement				

**(2) GOAL:** Advance research, innovation and discovery to improve health and solve the medical challenges of today and the future.

**(c) OBJECTIVE:** Enhance and support a culture of curiosity and inquiry throughout RowanSOM and Rowan GSBS.

**(iii) OUTCOME:** Increase faculty engagement in research, scholarly activity and mentorship.

#### 12 MONTH ACTION ITEMS

<b>ACTION ITEM 2:</b> Make research productivity, scholarly activity and mentorship an important consideration in faculty evaluations and recommendations for promotion.					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	6/20	12/23	Revised Faculty evaluations to include requirement of mentorship and scholarly activity.	Revised faculty evaluation form	On track
NOTES:					

<b>ACTION ITEM 1:</b> Include faculty-mentorship as an evaluation criteria in faculty evaluations and recommendations for promotion.					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	7/1/19	12/23	Revised Faculty evaluations to include requirement of mentorship and scholarly activity.	Revised faculty evaluation form	On track
NOTES:					

- (2) GOAL:** Advance research, innovation and discovery to improve health and solve the medical challenges of today and the future.
- (c) OBJECTIVE:** Enhance and support a culture of curiosity and inquiry throughout RowanSOM and Rowan GSBS.
- (iv) OUTCOME:** Promote interdisciplinary and collaborative research by enhancing relationships with other Rowan Universities and campuses.

#### 12 MONTH ACTION ITEMS

<b>ACTION ITEM 1:</b> Increase RowanSOM faculty participation in the 2020-2021 cycle of the Camden Health Research Initiative.					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	7/1/19	6/30/20	Request for Applications (RFA) for the Fall 2019 Camden Health Research Initiative should encourage applications involving collaborative research.	Last year four (4) faculty participated in grant submissions; get six (6) to eight (8) faculty to participate in the 2019-2020 cycle.	Completed
NOTES:	RowanSOM faculty submitted 7 applications with 38 collaborating investigators from other colleges of Rowan University for the Camden Health Research Initiative in September 2019. All requests for applications for the Camden Health Research Initiative were delayed/suspended by the University due to COVID in 2020.				

<b>ACTION ITEM 1:</b> Collaborate with the University on planning of the Neuroscience Institute					
LEAD	START	END	RESOURCES	METRIC / DEFINITION OF SUCCESS	STATUS
	12/20	9/22	Evaluation of potential institute and planning of implementation.	Finalized proposal for framework of institute	On track
NOTES:	The name was changed to the Institute for Brain and Behavioral Science. In the Summer/Fall of 2022 the Institute was launched within the SOM with plans to expand University-wide in the future.				

BLUE	GREEN	YELLOW	RED
Completed	On track	Off track, but plan exists to get back to green	Significantly off track / corrective action needed