



CASE WESTERN RESERVE
UNIVERSITY
School of Medicine



STRATEGIC PLAN

2021–2026



Case Western Reserve University School of Medicine



It all starts with a plan—and I'm pleased to present an update of the Case Western Reserve University School of Medicine's strategic plan encompassing 2021–2026.

While first posted in mid-2021, our update now adds elements focused on academic community engagement and advancement. This pervades all that we do in recruitment, education, research community engagement and impact. The plan reflects the interests of our faculty across our five campuses at Case Western Reserve University School of Medicine, Cleveland Clinic, Louis Stokes Cleveland VA Medical Center, MetroHealth System and University Hospitals, our plan encourages interdisciplinarity and a focus on health benefits.

In January 2023, I noted our initiation of three broad interdisciplinary research and education efforts that bring together our faculty of medicine and other CWRU Schools:

- Institute for Population and Community Health
- Artificial Intelligence and Machine Learning in Medical Science, Education and Practice
- Therapeutic Discovery and Development

Each aligns with our research and education programs, mindful of our healthcare environment and attentive to impact on our communities. Our strategic plan links together our academic priorities towards our mission:

To improve global health by linking research to populations in a superb educational environment.

This outline of our goals and aspirations focuses our planning and evaluation for each element of our research, education and academic community. These guide our programs, investments and scholarly discourse.

Welcome to the School of Medicine's roadmap!

Stan Gerson, MD

Dean, Case Western Reserve University School of Medicine



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Executive Summary

In July 2020, Case Western Reserve University (CWRU) School of Medicine embarked on a journey to develop a five-year strategic plan encompassing 2021 through 2026. This update showcase's our nine fundamental elements/areas that provide trajectory for the school's overall performance and outcomes:

- Research
- Medical Education
- Graduate Education
- Transdisciplinary Research
- Clinical and Translational Research
- Regional and National Community
- Academic Community Engagement & Advancement
- Faculty
- Philanthropy



Planning Process

Key to building a successful plan was ensuring faculty and staff felt engagement with and ownership of the plan. Once the school's leadership team built the draft in 2021, we shared it with the basic science chairs, presented it to the clinical chairs in each department and held town halls with the entire faculty including our hospital affiliate partners, and staff.

Annually, we review the plan with each group, asking them to evaluate the contents and share their comments with the dean's leadership team. After gathering and analyzing the data received from the town halls, we update strategy, objectives, and measurable results for each of these areas and improve the strategic plan.



About the School of Medicine

Founded in 1843, Case Western Reserve University School of Medicine has been at the forefront of medical education and world-class biomedical research, combining its faculty across Cleveland's preeminent healthcare network to educate students, develop breakthrough discoveries and treatments for diseases, and work toward eliminating health disparities around the world. The school boasts over two dozen program and degree options and consistently ranks in the top tier of medical schools for National Institutes of Health (NIH) research funding.

Focused on interdisciplinarity, the School of Medicine nurtures and promotes collaborative education and research efforts through its faculty at five campuses: Case Western Reserve University School of Medicine, Cleveland Clinic, Louis Stokes Cleveland VA Medical Center, MetroHealth System and University Hospitals. Our 477,000-square-foot Health Education Campus with Cleveland Clinic opened in 2019, bringing together medicine, nursing, dental, physician assistant and social work students from across the university under one roof to promote interprofessional education (IPE) and synergistic practice.

School and Faculty Innovations

- **2nd woman in the U.S. to earn a Doctor of Medicine (MD) degree**, Emily Blackwell, graduated from Western Reserve in 1852.
- Initiated the most **advanced medical curriculum in the country** in 1952, pioneering integrated education, a focus on organ systems and team teaching in the preclinical curriculum—an approach that transformed into the Western Reserve2 curriculum, based on small group, student-based learning that's now in use.
- **11 Nobel Prize holders** with ties to the School of Medicine.
- **1st MD/PhD dual-degree program in the country**, upon which the NIH and others modeled their programs, with one of the longest-standing MD/PhD NIH-supported programs in the country.
- **1st successful defibrillation of the human heart.**
- **1st stool DNA tests for early detection of colon cancer** and another for esophageal cancer.
- Development **Magnetic Resonance Fingerprinting.**



Learn more about the School of Medicine's notable people, scientific advancements and institutional events at: case.edu/medicine/about/history.



Strategic Vision

Case Western Reserve University School of Medicine is the intellectual glue for health education and research faculty across Cleveland's academic medical centers—Cleveland Clinic, Louis Stokes Cleveland VA Medical Center, MetroHealth System and University Hospitals—coordinating a network of transdisciplinary effort that touches a myriad of diseases and environmental backgrounds and risks.

Our Mission

To improve global health by linking research to populations in a superb educational environment.

Approach

We utilize an extraordinary consortium of medical school faculty across all Cleveland medical institutions to create integrated teams of experts to educate our trainees, link disciplines to discover the mysteries and treatment of serious diseases in Cleveland and across the world. Our mission guides us to provide excellence in medical education through our unique curriculum, advance discoveries from our laboratories to patients and improve the health of our community.



Strategic Principles

We seek excellence in scholarship and impact in all endeavors of research & training, with cross-institutional, transdisciplinary efforts that move discoveries to health, policy changes and societal benefit.

Our departments maintain excellence in their specialty area while promoting cross-discipline research centers to maximize impact.

Our efforts will be focused through critical choices and selective investments.

Our policies and actions will emphasize excellence in research, education, and implementation, and we will excel in recruitment, career development and retention, while remaining attentive to the social, cultural, and financial needs of our community of learners.

We recognize that health benefits of biomedical discoveries are tied to their impact on the social determinants of health and to our ability to engage our local and global community in their health needs.





Programmatic Research and Education Priorities



Research

- Cancer
- Immunity, Immunotherapy, Infectious Diseases, Emerging Infection and Global Health
- Therapeutic Discovery and Development - Small molecules, Gene Therapies, Nanotherapeutics, Cell Therapies, & Drug Delivery
- Neurological and Psychiatric Disorders
- Genomics, Human Genetics
- Physiologic Basis of Disease — Molecular Structure, Signaling & Metabolic Pathways
- Population & Community Health — Social Determinants of Health, Health Policy and Implementation
- Artificial Intelligence and Machine Learning in Medicine

Education

- Foster innovation in curricular design for educational programs and joint degrees by encouraging experiential learning with AI and competency-based education.
- Cultivate a welcoming learning environment for our students, faculty and staff.
- Engage our community in partnerships that train and retain highly talented individuals in Northeast Ohio.
- Establish a continuum of training—from high school to postdoctoral education — that emphasizes mentoring and broad career advancement.
- Increase regional and national recognition of graduate education through faculty involvement in national groups and scholarship.
- Provide a supportive environment to train leaders in education.

New Education Programmatic Priorities

- Master of Science in Regulatory Science
- Master of Science in Biotechnology
- Master of Science in Aerospace Physiology



Key Results / Metrics

Research

Objectives

Measurable Results

<p>1. Increase national reputation as a research-intensive school of medicine while supporting top faculty to promote innovation</p>	<ul style="list-style-type: none"> • Increase publications in high-impact journals (IF>10) from 13% to 17% • Increase research expenditures per faculty member by 15% over 3 years, and increase salary coverage by 4% of NIH salary cap • Increase multi-investigator and transdisciplinary grants by 20% (P, U other) • Increase faculty participation on national study sections, leading medical societies, and elected societies such as American Society for Clinical Investigation and the American Association of Physicians, receipt of national and societal awards • Increase faculty members on health, community and patient organization boards
<p>2. Increase net basic science department faculty member count by 10% over 5 years, increasing hires from groups who are Underrepresented in Medicine (URiM)</p>	<ul style="list-style-type: none"> • 10% increase in each category: tenure track and non-tenure track • Target: 15-18 per year TT and 3-7 NTT
<p>3. Increase discovery-based patent applications, licenses, startups and commercialization income</p>	<ul style="list-style-type: none"> • Target 15% increase per year • Return on Investment (ROI) as licenses, venture funding
<p>4. Support research Centers of Excellence across departments with interdisciplinary focused research space</p>	<ul style="list-style-type: none"> • Establish program-clustered research space for teams • Add 50,000 square feet in additional research space over 5-7 years to accommodate incremental faculty
<p>5. Increase investments in existing faculty through bridge grants and program expansion and pilot funding initiatives</p>	<ul style="list-style-type: none"> • Focus investments for Centers, new research and grant initiatives that are linked to departmental and strategic plan priorities that provide impact and ROI linked to grants and publications
<p>6. Invest in enabling and emerging technologies, including AI, that support the school's research priorities with cost-effective shared resources</p>	<ul style="list-style-type: none"> • Match investments to grants and impact, increase S10 grant applications, and increase philanthropy for technology acquisition



Key Results / Metrics

Medical Education

Objectives

Measurable Results

<p>1. Cultivate and foster a welcoming learning environment where all students can flourish.</p>	<ul style="list-style-type: none"> • Increase pathway training curriculum for MD cohort to 10 students per year • Mitigate bias in admissions, curriculum, clerkships • Provide real-time assessments and responsive education • Train residents and faculty in identifying and mitigating bias, harassment, and mistreatment
<p>2. Promote curricular innovation across competency-based medical education</p>	<ul style="list-style-type: none"> • Customize curriculum including student early career exploration • Enhance ways to report high performance of students in clinical space • Explore optimal strategies for incorporating artificial intelligence to both deepen learning and prepare students for future state of healthcare delivery systems
<p>3. Provide exceptional mentorship and research experiences for students</p>	<ul style="list-style-type: none"> • Provide mentoring skill training to at least 50% of MD thesis mentors
<p>4. Expand our simulation programs and educational technologies</p>	<ul style="list-style-type: none"> • Augment education with AR/VR/MR technologies • Create simulation expertise to share city-wide with hospital affiliates • Expand simulations to include faculty development programs for clinicians
<p>5. Manage the cost of medical education</p>	<ul style="list-style-type: none"> • Reduce relative tuition in AAMC private medical school rankings • Create revenue stream for medical education • Increase donor scholarship support by greater than 10% a year, targeting \$10M in annual support
<p>6. Engage with the local stakeholders to enhance community partnerships</p>	<ul style="list-style-type: none"> • Link Pathways Programs and interprofessional education of MD, PA, and MSA students to community health needs • Create opportunities for students in Midtown Institute for Population & Community Health Center • Expand geriatric education program across Cleveland including early longitudinal program with active senior citizens • Increase capacity for students in Student Run Health Clinics
<p>7. Elevate national recognition of education excellence</p>	<ul style="list-style-type: none"> • Increase faculty education-focused publications to 10 per year • Create brand awareness for Continuing Medical Education and innovative education (Simulation Center, HoloLens) • Recognition for innovation in education activities in promotion process • Train and support medical educators across the five campuses
<p>8. Develop applications of large language & generative AI learning models for medical case studies with attention to ethical strategies</p>	<ul style="list-style-type: none"> • Increase awareness of data science as it relates to healthcare



Key Results / Metrics

Graduate Education



Objectives

Measurable Results

<p>1. Improve student experience in career development</p>	<ul style="list-style-type: none"> Promote and expand participation of trainers on training grant and fellowship study sections, and on national committees Improve Student satisfaction with graduate education to >80% Implement mentor training for thesis advisors in trainee career development, a conducive learning environment and mental health support
<p>2. Support non-academic biomedical science careers for PhD and Master's students</p>	<ul style="list-style-type: none"> Embed career exploration opportunities into programs Implement PhD alumni seminars on their career paths Use "Alumni Connect" to link students to alumni coaches Expand the translational fellows program and track placement Metric: Achieve 50% trainee participation in career development activities
<p>3. Career guidance for PhD students and postdoctoral fellows interested in academic career</p>	<ul style="list-style-type: none"> Expand career development program focused on teaching, mentoring and leadership Implement structured grant writing courses in the PhD program in year 2 to encourage > 50% fellowship grant submission Develop support for postdoctoral fellow career development awards that lead to independent investigator careers
<p>4. Offer postdoctoral fellows and students paths to faculty positions</p>	<ul style="list-style-type: none"> Continue Dean's Scholars Program Pathway to Faculty Program Train faculty mentors and establish career mentoring Admit 1-2 post-doctoral students each year Evaluate continuity toward independence at year 4
<p>5. Increase master's programs matriculation and add offerings</p>	<ul style="list-style-type: none"> Continue regulatory science, pharmacology, aerospace physiology and entrepreneurship programs Monitor placement and career progression for graduates Renew the post bac programs leading to admission to PhD and MD programs
<p>6. Increase opportunities for graduate students of diverse backgrounds</p>	<ul style="list-style-type: none"> Recruit from historically Black colleges and universities (HBCUs) and develop a pipeline from Cleveland Metropolitan School District, Cleveland State University and CWRU students Participate in CWRU's North Star program to draw in candidates from HCBUs and other minority-serving institutions Recruit PhD students from CWRU's North Star initiative, Postbaccalaureate Research Education Program



Key Results / Metrics

Transdisciplinary Research

Objectives

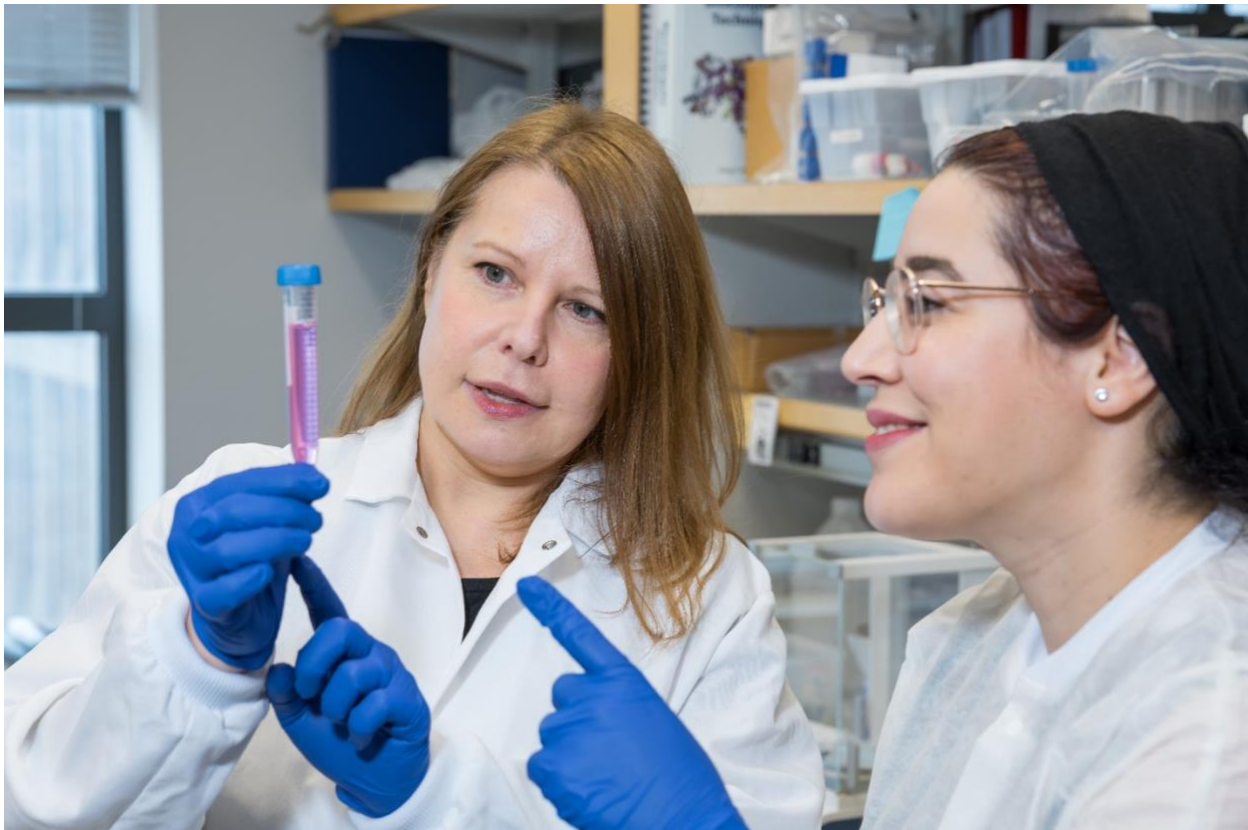
Measurable Results

1. Expand collaborative efforts across the faculty members of medicine at our 5 institutions (Case Western Reserve, Cleveland Clinic, Louis Stokes Cleveland VA Medical Center, MetroHealth System, University Hospitals)

- Promote Centers and Institutes to expand transdisciplinary investigations with a translational focus
- Develop the Institute for Population and Community Health
- Develop Strategic Leadership groups
- Pursue Multi-PI grants in priority areas of health outcomes and disparities
- Leverage institutional competencies: genomics, tissue, EHR data, populations

2. Increase interdisciplinarity of the faculty members of medicine with faculty of other schools within the university

- Broaden cross-school links: patents & social justice with the School of Law; populations with the Jack, Joseph, and Morton Mandel School of Applied Social Sciences; technology with the Case School of Engineering; discovery and environment with the College of Arts and Sciences
- Provide opportunities for faculty to engage in scholarship to expand interdisciplinary perspectives





Key Results / Metrics

Clinical and Translational Research

Objectives

Measurable Results

<p>1. Expand education about clinical and translational research</p>	<ul style="list-style-type: none"> • Build medical research education modules for all CWRU faculty, including regulatory and compliance requirements
<p>2. Plan timely dissemination of validated translational research findings from project inception to magnify impact</p>	<ul style="list-style-type: none"> • Increase multi-site academic and community collaborations • Create harmonized standard operating procedures and best practices • Improve access to health interventions that aim to promote health • Expand Tech Transfer through JobsOhio to commercialization of Cleveland Innovation District
<p>3. Train a robust and community representative workforce at all levels (including community-based liaisons) who represent the community and academia</p>	<ul style="list-style-type: none"> • Establish high impact educational and training programs of all disciplines and levels, both in clinical and community settings with new pathways to recruit a diverse research workforce • Promote early research experience and mentoring for (HS, UG) students without prior health experience
<p>4. Develop innovative methods for clinical and translational research to increase the participation of a cross section of community members locally and across the US in pivotal national clinical trials</p>	<ul style="list-style-type: none"> • Build database of resources to support health research, including faculty, community organizations, publications, funding opportunities, • Implement locally established models for research into a regional, national, or international public health or research environment • Streamline regulatory and operations to facilitate participation of CWRU faculty in clinical and population trials • Increase state and federal funding to demonstrate scalable implementation across the country
<p>5. Establish and expand a community engagement network for clinical and translational research to position CWRU as the preferred academic collaborator with local and national community organizations</p>	<ul style="list-style-type: none"> • Expand a robust & sustained community engagement network spanning emerging priority research communities (4 per year) • Create brand awareness for the CWRU CTSI as a trusted source for scientific information and opportunities <p>Invest in resources for researchers, clinicians, and community members/organizations to co-lead projects, compete for research funding, disseminate and implement findings</p>



Key Results / Metrics

Regional and National Community



Objectives

Measurable Results

<ol style="list-style-type: none"> 1. Develop Institute for Population and Community Health with CWRU-wide programs in education, research and policy change with national impact 	<ul style="list-style-type: none"> • Link population Health and Health Policy Initiative (with MetroHealth, VA) to Urban Health Center of Cleveland State University and Cleveland Clinic
<ol style="list-style-type: none"> 2. Expand school-linked community outreach engagements to Boards of Health, schools, and nonprofit groups focused on improving health of our region 	<ul style="list-style-type: none"> • Increase direct faculty participation in community programs and policy and guideline committees • Engage the advice and input of the local community in large research projects • Develop community health initiatives and implementation programs • Create community education efforts for public health
<ol style="list-style-type: none"> 3. Develop partnered programs in education, research, and policy change for community benefit 	<ul style="list-style-type: none"> • Establish school-wide Community Advisory Board to develop awareness of community health needs and potential interventions





Key Results / Metrics

Academic Community Engagement & Advancement

The Case Western Reserve University School of Medicine academic community strives for innovative discovery and education that avoids bias and maximizes input from diverse perspectives and individuals. Together we contribute to a dense fabric excellence in scholarship. This culture is based on the norms of integrity, respect and professionalism, as well as coordination between faculty, trainees and staff, and kindness.

Objectives

Measurable Results

<p>1. Enhance the overall climate to reflect, promote, and welcome excellence at every level</p>	<ul style="list-style-type: none"> • Benchmark progress through a regularly scheduled climate/culture/engagement survey • Implement and support employee education and engagement activities • Create interactions between and among faculty and student groups to network
<p>2. Improve and expand content and format of interpersonal and intrapersonal engagement of faculty, staff and students in the context of professionalism</p>	<ul style="list-style-type: none"> • Enhance best practice professional development and training for search, promotion, tenure and student-facing committees • Expand current career development and academic pathway programs • Advocate a Speak-up culture where trainees and junior faculty feel safe • Promote the SOM Professional Code of Conduct through training and coaching
<p>3. Encourage excellence in scholarship using strategies to recruit, develop, promote and retain a broad range of faculty, staff and students and academic advancement</p>	<ul style="list-style-type: none"> • Promote an environment of academic advancement for all • Provide career support from staff, trainees faculty and leaders attentive to the academic needs • Review curriculum for bias • Unconscious bias training for all incoming trainees and faculty • Mentor and thesis student faculty committee training in inclusivity and professionalism



Key Results / Metrics

Faculty



Objectives

Measurable Results

1. Increase faculty engagement in the SOM across all 5 campuses

- Regularly meet with and recognize faculty contributions across all 5 campuses
- Increase number of faculty appointment and promotion applications across all 5 sites
- Increase faculty involvement in SOM governance and professional service across all 5 sites

2. Support the professional and personal development of all faculty across their career span with specific attention to individual differences

- Provide efficient and customer-centered support for faculty to ensure compliance with SOM and University guidelines
- Refine existing and develop new curricula to address the professional development needs of faculty at different stages of their careers
- Facilitate the development of safe, cohort communities for faculty
- Provide training opportunities to all faculty on best practices for establishing and maintaining a culture of excellence

3. Expand Faculty Development Offerings

- Expand number of faculty participating
- Develop an emerging leaders curriculum



Key Results / Metrics

Philanthropy



Objectives

Measurable Results

1. Align philanthropy to each research strategic priority

- Expand faculty through endowed professorships, including the Dean’s Scholars Program
- Support growing research activities into funded centers
- Provide topical support for priority new initiatives

2. Raise scholarship and research support for the school’s MD and graduate student programs and for transition to faculty

- Increase scholarship support per year to medical and graduate students through philanthropy
- Increase support for Pathway programs including stipend and student project support
- Scholarships for graduate education and masters to offset student stipends
- Endow the Dean’s Scholars Program

3. Expand school-based community outreach with focus on population and urban health

- Establish the Institute for Population and Community Health





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