

IMPACT 2025

*Final Draft of the UMMS Strategic Plan
(2020 – 2025)*

CHANCELLOR'S MESSAGE

Fifty years after the first class of sixteen medical students arrived on an undeveloped parcel of land along the banks of Lake Quinsigamond on the eastern edge of Worcester, the University of Massachusetts Medical School, the commonwealth's first and only public medical school, has forged a unique path along which we have soared to new heights, earning us a place among the nation's most esteemed institutions of academic medicine.

Similar to our peers in Massachusetts and beyond, excellence is our benchmark. Yet our hallmark has been and will always be, an unyielding commitment to primary care, community partnership and interprofessional collaboration that sets us apart and positions us for continued success.

Our medical school is all about purposeful partnership. Creative collaboration is our calling card. We recognize the enduring impact of all that we do. We thrive on our public mission with a passion that is palpable. Reminiscent of the early architects of our medical school, we approach our efforts with modesty and intensity.

Working collaboratively internally and engaging purposefully externally defines our determination to advance the education of those engaged in the health professions and research; the discovery of scientific breakthroughs and their translation into new therapies, products, treatments and public health interventions; and the health and wellness of our diverse local and global populations. We live by the values of diversity, inclusivity and wellness; we emphasize interprofessional team-based learning and collaboration; we encourage transdisciplinary, fundamental and community-engaged research; we embrace innovation, entrepreneurship and excellence; and we ensure our efforts are aligned with our special public mission.

Our first 50 years validated our purpose and the next 50 will demonstrate our contributions as a leading-edge medical school known for propagating an enhanced social mission that expands our reach, extends our presence, deepens our influence and broadens our impact. By imbuing our social compact throughout the entirety of our enterprise, we will drive transformational advances in the areas of education, research, health equity, health care delivery, public service and global engagement.

The catalyst for our future growth, success and impact will be IMPACT 2025, our institutional strategic plan for the years 2020–2025.

To develop our IMPACT 2025 strategic plan, we have employed a process that has engaged hundreds of UMMS community members: through forums large and small, in meetings public and private, and in interactions planned and serendipitous. Driven by collective reasoning, we have taken the time to develop our thinking about the immediate future. We have worked to craft strategic priorities and lofty aspirations into a coherent and concrete plan that will guide our actions well into the next decade.

A result of this process is a shared belief that, as a medical school, we have both the opportunity and the obligation to leverage the full breadth, depth and scope of our enterprise to accelerate and elevate the broad societal impact we create in Worcester, Springfield, Boston, Fall River, Hyannis and many other diverse communities across Massachusetts and around the world.

In partnership with the broader University of Massachusetts system, from the Commonwealth of Massachusetts to all corners of the globe, as a leading-edge medical school, our institution is poised to expand our reach and broaden our impact for the benefit of all.

Final Draft

MISSION

Our mission is to advance the health and wellness of our diverse communities throughout Massachusetts and across the world by leading and innovating in education, research, health care delivery and public service.

VISION

To be a leading-edge medical school of the future by:

- Embracing the full richness of diverse people, perspectives and experiences, and enabling all members of our academic community to thrive in a welcoming and inclusive environment;
- Educating resilient, agile and culturally competent clinicians, scientists and educators who are optimally prepared to lead and succeed in their evolving professional environments of the future;
- Designing a holistic approach to primary care that emphasizes population health and social determinants of health to transform the practice of medicine;
- Promoting scientific inquiry and discovery to generate new knowledge, identify promising pathways, pursue novel targets, develop innovative diagnostics, and design effective interventions that bring hope and health to the human condition;
- Building a model ecosystem for innovation that enables, accelerates and formalizes the process by which our cutting-edge discoveries are translated into commercially viable, life-saving products and therapies for the benefit of patients and populations.
- Engaging thoughtfully and collaborating meaningfully with a diverse network of local and global partners to promote health equity and improve health outcomes; and
- Harmonizing our interprofessional education, research, community engagement and public service strengths to respond to unmet needs and to broaden and deepen our social impact.

IMPACT 2025 STRATEGIC GOALS

EDUCATION

Advance practice, learning, and leading by engaging fully with our communities to be the destination of choice for learners interested in interprofessional, team-based care and biomedical entrepreneurship

BASIC SCIENCE RESEARCH

Enable the engine of discovery to generate groundbreaking scientific knowledge, with continued focus on areas of world-class strength

TRANSLATIONAL RESEARCH

Enhance innovation and increase impact by advancing the science of translation and channeling more discoveries into development and practice

COMMUNITY AND GLOBAL IMPACT

Measurably improve the health and welfare of the residents of Massachusetts and the citizens of the world by investing in an enhanced social mission that engages community partners, advances health equity research and promotes public health interventions for the benefit of those greatest in need

OPERATIONAL EXCELLENCE AND FINANCIAL STEWARDSHIP

Establish models for outstanding support services, vibrant working environments and highly efficient infrastructure to propel UMMS to new heights

IMPACT 2025 EXECUTIVE SUMMARY

UMass Medical School's 2020–2025 strategic plan, IMPACT 2025, has been created at an important point in the history of the medical school: 2020 marks the 50th anniversary of the inaugural class of 16 medical students commencing their medical education against the backdrop of a grand but uncertain experiment to launch the state's first and only public medical school.

What began as a modest endeavor in 1970 has evolved into a substantial and enduring enterprise. The common threads that connect our past and present and that will connect the present with our future are an indefatigable spirit, a collaborative ethos, an entrepreneurial mindset and a service orientation. Our social compact compels us to engage in efforts to improve the public good. Our historic and nationally recognized excellence in educating primary care practitioners represents one noteworthy example of how our social mission manifests itself for the benefit of the communities we serve.

The sheer breadth, depth and scope of the UMMS enterprise of today presents our medical school with a unique opportunity to do more, for and with more people, in more places. The IMPACT 2025 planning process, which was deliberate, thoughtful and participatory, revealed a deep and abiding passion among members of the UMMS academic community to be more intentional about the impact we create and the social mission we propagate.

Our strategic plan presents UMass Medical School with a blueprint for innovation and a roadmap for societal benefit. It presumes that foundational and core institutional values—health and wellness, collaboration and partnership, diversity and inclusion, engagement and equity, innovation and entrepreneurship, and primary care and public health—will underpin our next five years of success, as well as our next 50 years of impact. It envisions aligning and leveraging the full complement of expertise, resources and people within the UMMS enterprise, including Commonwealth Medicine, MassBiologics and other specialized assets, as well as the broader University of Massachusetts system to expand our reach, extend our presence and deepen our influence. Most importantly, the plan calls for our emergence as a leading-edge medical school of the future—one that defines and measures success through the lens of visible and enduring contributions to human health. From individuals to communities to populations, we will make a sustained impact in furtherance of our social compact as the commonwealth's public medical school.

Our social compact refers to our enduring institution-wide focus on service to and engagement in the Commonwealth of Massachusetts and the cities and towns in which we live and work. This compact recognizes our strong connection to the health and well-being of our state's residents, as well as the citizens of the world. Further, it acknowledges the societal responsibility we willingly embrace to serve as an engine of discovery to generate new knowledge that can have a tangible and measurable impact on those greatest in need. Finally, our social compact compels us to be excellent stewards of precious public dollars so as to optimize and maximize institutional resources for the benefit of those we serve.

We endeavor to leverage our intellect and influence through the profound contributions made by our highly-qualified, culturally competent, equity-oriented, community-engaged graduates. We intend to relentlessly pursue world-class science—from basic science discovery to translational research to the science of translation, and from community-engaged and health equity research to population health and health outcomes studies. We plan to strategically invest in the best and brightest talent, including basic and applied scientists, clinician-investigators and computational researchers. We commit to enhancing our partnership models, community engagement approaches and public health initiatives by harnessing and coordinating the collective power of the UMMS enterprise toward achieving health equity. Finally, we commit ourselves to elevating our social compact by sustaining excellence in stewarding the resources and assets of our valued state institution.

A summary of IMPACT 2025's thematic goals, all of which will contribute to advancing our strategic direction and expanding our institutional impact, follow.

Education

In education, we will commit ourselves to accommodate the increasing demand for our educational offerings and to respond to the workforce needs in our state and beyond. This will necessitate pushing the boundaries of educational innovation, the focus of which will be to optimally prepare the physician, nurse and science leaders of tomorrow so that they may thrive in and adapt to complex, evolving practice environments. We will promote experiential and interprofessional learning across all three schools. In partnership with our faculty, learners and affiliates, we will refine and enhance our competency-based educational curriculum, establish new professional competencies and offer our students tailored pathways of study in leadership and entrepreneurship. So, too, our undergraduate and graduate medical education initiatives will partner to ensure that our graduates lead the revitalization and re-emergence of our affiliated residency training programs. To position our faculty educators and administrative staff to lead the development of next-generation educational pedagogy and leadership development that reflects how our future students study and learn, we will launch the Leadership/Education Academy Program (LEAP). Finally, we will help our educators and learners find and sustain wellness, realize personal satisfaction and achieve professional fulfillment, all of which are integral to transforming our culture and advancing our bold vision for the future.

Research

In research, to advance human health, we will integrate, link and align our discovery, translation, implementation and commercialization efforts to ensure progress and to achieve impact. This will require new and enhanced engagement with our diverse portfolio of research stakeholders, including community partners and industry collaborators. Our basic science enterprise will be positioned as an engine of discovery that primes the pump of our research pipeline. A New Opportunity Fund will be established to position us to take advantage of emerging scientific opportunities. Additionally, we will invest in new and complementary research programs, highlighted by the establishment of a Program in Human Genetics and Evolutionary Biology and a Human Genetic Disease Modeling Core. To help drive and sustain our clinical and translational research efforts, we shall prioritize the recruitment and retention of additional exceptional and entrepreneurial clinician-scientists within the ranks of our faculty.

Underpinning our strategic direction in research will be an enhanced commitment to provide all who are engaged in research, discovery and innovation with best-in-class infrastructure and specialized support services. A centerpiece of this commitment will be the construction of a state-of-the-art research facility on our main campus that will house existing areas of world-class strength such as the Horae Gene Therapy Center, the Program in Molecular Medicine, neurobiology and neurotherapeutics, as well as new and emerging areas, including the Program in Human Genetics and Evolutionary Biology. Additionally, we will create an Integrative Biomarker Core that will apply powerful new technologies and integrative analytics toward the identification of new biomarkers and novel point-of-care diagnostic devices.

We will augment our support for preclinical product development and early stage clinical trials to speed the translation of scientific discoveries to new treatments and approaches. An advanced therapeutics initiative will align and integrate the full complement of resources and expertise—legal, regulatory, process development, biomanufacturing and clinical trial design and management—necessary to advance and accelerate the translation of our scientific discoveries. Finally, targeted investments in data-related capabilities, including continued investment in our data lake, as well as research computing and data science technologies, will provide innovative, agile, cost-efficient and compliant technologies, tools and expertise in support of emerging scientific directions.

Community and Global Impact

In the area of community and global impact, we will incorporate our social mission across all parts of the UMMS enterprise and emphasize the importance of the social determinants of health, health equity and community-engaged research, public service, and global health in our academic and research programs. To amplify the full extent of our efforts and to more

effectively tap into the collective passion and expertise of our faculty, staff and students, we will launch a Collaborative in Health Equity that will help us to align, integrate and empower the substantial and varied scholarship, programs, projects and volunteer activities, already underway across our institution, that promote health equity and strengthen health equity research across Massachusetts and throughout the world. To further our community-engaged research and global health initiatives, we will emphasize the power of our partnerships with essential stakeholders, such as the Worcester Department of Public Health, the Commonwealth of Massachusetts Executive Office of Health and Human Services and the VA, by deploying new and enhanced partnership approaches that will help us to more effectively improve health and wellness in the communities in which we live and work. As we begin to execute on this direction, we will recommit to measuring and enhancing our community impact through a rigorous process of assessment and continuous improvement.

Operational Excellence and Financial Stewardship

Our institution straddles three dynamic industry sectors: higher education, health care and the life sciences. Each is marked by increasing competition and rapid transformation. To compete successfully in the broader environment in which we operate, we must be both strategic and tactical as we lead our medical school and position it for another 50 years of success and impact. Consequently, our future direction will be contingent upon exceptional stewardship of our institutional resources and assets. Essential enabling strategies, from talent management to facilities management to technology management, must be aligned with and supportive of IMPACT 2025.

In this plan, we underscore the critical need to develop a new human capital strategy that embraces diversity, inclusion and gender equity as business imperatives to position our institution as an employer of choice for the global talent pool from which we draw our workforce. We will augment our educational, research and service missions by creating innovative and cutting-edge technology solutions that transform the ways in which we plan, manage and utilize our physical assets and infrastructure. Further, we will more fully leverage the wholly unique platforms that exist within Commonwealth Medicine and MassBiologics, as well as the specialized expertise embedded in UMMS BRIDGE, our business development arm, and our Office of Advancement. These distinguishing assets of our medical school will serve as impact multipliers, intensifying the effects of the work we undertake as the commonwealth's first and only public medical school.

As our medical school charts an ambitious and dynamic future direction, we remain cognizant of and committed to the broader university system that we are privileged to be a part of and proud to help shape. As the Nobel Prize-winning health sciences campus of the university, our medical school is an integral and impactful component of the UMass system. Our specialized mission, world-class faculty, cutting-edge programs, state-of-the-art infrastructure and collaborative ethos position us as a partner of first choice for the other UMass campuses. We welcome such collaborative efforts and engage actively and enthusiastically. Partnership examples include: the system-wide UMass Center for Clinical and Translational Science; driving the five-campus life sciences strategic plan; coordinating the establishment of the UMass baccalaureate-MD pathway program; and developing mutually beneficial partnerships with specific campuses. Our UMass Lowell partnership around the Massachusetts Medical Device Development Center, as well as our MPH and MBA dual degree programs with UMass Amherst and UMass Lowell, respectively, serve as tangible and successful examples of our campus-specific collaborations. Consistent with IMPACT 2025's strategic direction, we will continue to contribute to the growth, success and achievement of the UMass system by engaging our fellow UMass campuses and making available to them our unique and complementary expertise, resources and assets.

As we look to the next 50 years of achievement at our medical school, we need only to recall the foundation of our success over our first five decades of operation: passionate people inspired by our public mission, empowered by our collaborative ethos and sustained by our optimistic outlook.

IMPACT 2025 marks the start of a new chapter in our institution's dynamic history. By working together—across the UMass System, throughout the Commonwealth of Massachusetts and around the world—we will emerge as a leading-edge medical school of the future that makes a purposeful, persistent and profound impact on human health.

EDUCATION

Advance practice, learning and leading by engaging fully with our communities to be the destination of choice for learners interested in interprofessional, team-based care and biomedical entrepreneurship

Our medical school plays a vital role in providing high-quality, affordable health sciences education to residents of and beyond the commonwealth. Over the next five years, our focus will be a continued dedicated effort to serve as a model for the future of health and life sciences education while enhancing our reputation for leadership in teaching and learning innovation.

Our educational community comprises the School of Medicine, which includes the UMMS-Baystate regional campus; the Graduate School of Biomedical Sciences; the Graduate School of Nursing; and the Graduate Medical Education Program. Taken collectively, our learning environment has been recognized consistently for academic excellence, high student satisfaction and outstanding educational outcomes. While we are proud to offer our graduate students, residents and fellows an exceptional education, we cannot rest on past accomplishments or present achievements. The professions and practice environments that our graduates will enter are characterized by a perpetual state of assessment and change. Therefore, we are compelled to ensure that our academic programs keep pace and continually adapt to external changes and trends.

While the challenges ahead for our educational mission are significant, we embrace them as meaningful opportunities for continued leadership and innovation. In the years ahead, we intend to lead from the front by pushing the boundaries of educational innovation, the focus of which will be to optimally prepare the physician, nurse and science leaders of tomorrow so that they may thrive in and adapt to complex, evolving practice environments.

The following educational priorities will drive our strategic direction:

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| Designing Innovative Educational Programming | Establish new tailored pathways of study in advanced practice, entrepreneurship and leadership as we engage with our communities as partners in the educational experience and develop an expanded set of professional competencies to respond to the unique needs of our learners and evolving practice environments |
| Facilitating Interprofessional Learning Opportunities | Embrace and enable interprofessional collaboration and learning among our undergraduate, graduate medical education and nursing learners, through new opportunities to engage in interprofessional project work and interdisciplinary community-based learning |
| Responding to Workforce Needs, Demands and Trends | Continue to expand the range, diversity and quality of preclinical resources and clinical placements to keep pace with expanding enrollment, workforce demands, curricular innovation and the needs of those we serve |
| Nurturing a Diverse and Inclusive Learning Environment | Recruit, support and celebrate a diverse and inclusive educational community, providing curricula and learning environments that effectively address bias |

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| <p>Investing in Next Generational Pedagogy and Educators</p> | <p>Lead the development of next generation educational pedagogy by providing targeted support to faculty and staff focused on core competencies, teaching methods innovation, engagement skills and leadership development</p> |
| <p>Prioritizing Educator and Learner Wellness</p> | <p>Prioritize wellness integration to encourage and support the well-being of all stakeholders in our educational community</p> |

Designing Innovative Educational Programming

In the coming years, as both the health care and biomedical research landscapes evolve, we will ensure that we are responding to the educational needs of our students and the workforce demands of our state and professions. We will renew our commitment to optimally prepare our diverse learners to adapt and thrive during their career journeys. We will be at the forefront of developing new curricula and teaching methodologies that incorporate and support an enhanced and expanded set of professional competencies from which our graduates will draw in order to excel in their professions.

Tailored pathways of study that engage our communities as partners in the educational experience will characterize our modernized curriculum. Entrepreneurship and leadership skills will be prioritized in our new programs of self-directed learning. Additionally, as our plan progresses, we will engage MassBiologics, Commonwealth Medicine and the UMass Center for Clinical and Translational Science to explore opportunities to leverage their unique expertise to provide our learners with additional educational pathways focused on areas such as regulatory science and health policy.

An expanded menu of learning experiences will support students in the acquisition of new competencies including, but not limited to, health systems science, value-based care, population health, social determinants of health, system improvement and systems thinking. Technology advances will be leveraged to enhance teaching and learning while enabling students, residents and fellows to pursue experiential learning and real-life problem solving in both clinical and community settings.

We will be intentional and strategic about weaving our social compact as a public medical school into the priorities and programming of our schools with a goal of educating outstanding, altruistic leaders and lifelong learners in medicine, science and nursing. We will emphasize service learning and community engagement as central tenets of our educational programs. Our curricula offerings will be supportive of our new and improved learning environments that foster intellectual curiosity, emotional intelligence, interprofessional and team-based collaboration, student engagement and improved learning outcomes.

Facilitating Interprofessional Learning Opportunities

Health care in the 21st century is built upon patient- and family-centered interprofessional collaborative practice. Our learning environments and the educational experience we offer to our students and trainees will be distinguished by a fully integrated interprofessional framework across our three schools and graduate medical education programs. As a result of our educational leadership’s deep and abiding commitment to interprofessional teaching and learning, an interprofessional framework is already part of the fabric of our educational programs. We will build with this shared commitment and, over the next few years, ensure that the value proposition of interprofessional learning is fully integrated and coordinated across the entire educational enterprise. Such a framework will require enhanced collaboration, cooperation and communication among and between schools, programs and stakeholders. By so doing, we will prepare our graduates to contribute to and lead interprofessional teams in their future practice environments.

Responding to Workforce Needs, Demands and Trends

We have a special responsibility to contribute to the workforce needs in our state and our broader professions. A top priority of our plan will be to grow our enrollment to account for growing workforce needs. Therefore, we will think strategically about clinical and community placements, as well as physical spaces that will facilitate interprofessional and small-group

learning, student engagement and achievement. Moreover and in partnership with our key clinical partners—specifically UMass Memorial Health Care and Baystate Health—we will focus on increasing the number of medical students who remain at our institution and affiliated institutions for graduate medical education. We will look to our graduates to lead the revitalization and re-emergence of our residency and fellowship training programs for the long-term benefit of the patients we serve.

Nurturing a Diverse and Inclusive Learning Environment

As we move forward to become a leading-edge public medical school of the future, we will reaffirm our commitment to address historic challenges in recruiting and retaining a diverse community of learners and faculty. Fortunately, this strategic plan has been developed against the backdrop of a major, multiyear, institutional-wide diversity initiative focused on increasing the number of faculty, students and staff who come from groups underrepresented in medicine.

We will be taking a three-pronged approach to improving diversity throughout our educational community: the first is strategic; and the second is tactical. At a strategic level, we will distinguish our educational enterprise by promoting and sustaining a culture that celebrates and espouses the values of respect, inclusivity, collegiality and diversity and, at the same time, acknowledges and effectively addresses bias. Institution-wide efforts to transform our culture are well underway as a result of our Diversity Summit initiative. At the tactical level, we have an active portfolio of diversity programs that span the developmental continuum, from undergraduate students to senior faculty leaders. By assessing the effectiveness of all our faculty and student recruitment and retention programs, we will have a meaningful opportunity to restructure our diversity portfolio and direct current and future investments to those programs in order to reach desired outcomes. Finally, we will expand our direct investment in the education and pre-professional development of diverse learners at the high school, college and post-baccalaureate levels through robust pipeline programs linked to the communities we serve, as well as the broader UMass system.

Investing in Next Generation Pedagogy and Educators

The success of our academic program starts with the achievement, satisfaction and leadership of our faculty educators and administrators. We keenly appreciate that future learners will employ new approaches to accessing information, studying and learning. To ensure that we are meeting their expectations—and ours—we will focus on innovative educational pedagogy that reflects and aligns with the learning methods of new generations of students.

To ensure that our faculty educators and academic leaders are positioned to lead the development of next generation educational pedagogy and leadership development that responds to how our future students study and learn, we will launch the Leadership/Education Academy Program (LEAP) to support faculty and staff as they master core competencies, teaching methods innovation and leadership development with enhanced engagement skills.

Prioritizing Educator and Learner Wellness

With each passing year, our students, residents, fellows and teaching faculty are asked to succeed in environments characterized by increased pressures and heightened expectations. Envisioning a milieu in which our stakeholders feel supported and engaged is an absolute imperative. Helping our educators and learners find and sustain wellness, personal satisfaction, and professional fulfillment will be an integral component of transforming our culture and advancing our bold vision for the future.



We have established the following major milestones to guide implementation of our strategic direction in education:

YEAR 1:

- ❖ Design and develop the framework for the Leadership/Education Academy Program (LEAP)
- ❖ Establish tri-school work groups focused on the development of new professional competencies, tailored pathways of study and enhanced interprofessional learning opportunities
- ❖ Establish a GME work group to recommend strategies for strengthening residency programs at UMMS and affiliates
- ❖ Develop a process, in partnership with key internal constituencies, to more effectively engage community stakeholders in the educational experience
- ❖ Form an Educational Space Design Work Group to promote small-group, team-based learning, as well as student engagement and wellness
- ❖ Evaluate and make plans for increasing enrollment tied to institutional demand and workforce needs
- ❖ Expand Baccalaureate-MD and Post-baccalaureate programs

YEAR 2:

- ❖ Finalize the new and enhanced professional competencies to be integrated into our curricula offerings
- ❖ Pilot tailored pathways of study in advanced practice, entrepreneurship and leadership
- ❖ Finalize recommendations from the Educational Space Design Work Group that prioritize new small-group, team-based learning spaces that promote engagement, satisfaction, learning outcomes and wellness
- ❖ Finalize programmatic and business plans for LEAP
- ❖ Begin implementation of recommendations from the GME work group
- ❖ Finalize plan for accommodating growth in targeted educational programs
- ❖ Receive favorable LCME accreditation for the educational program leading to the M.D. degree

YEAR 3:

- ❖ Launch new and enhanced professional competencies, and further develop tailored pathways of study in advanced practice, entrepreneurship and leadership

- ❖ Implement key components of LEAP, including creation of new specialized educational spaces that contribute to student and faculty wellness, engagement and satisfaction
- ❖ Formalize an expanded array of clinical teaching sites, including community-based clinics, to provide students with diverse and enriching learning experiences, as well as opportunities to pursue community-engaged project work
- ❖ Increase the number of graduates who are in residency programs at UMMS or affiliated institutions
- ❖ Commence enrollment growth plan

YEAR 4:

- ❖ Fully operationalize tailored pathways of study in advanced practice, entrepreneurship and leadership
- ❖ Roll out an expanded and diverse portfolio of clinical teaching sites
- ❖ Further implement LEAP
- ❖ See year-over-year improvement on the annual ACGME survey results
- ❖ Continue to grow enrollment in targeted programs

YEAR 5:

- ❖ Welcome the largest and most diverse first-year medical school class in our history
- ❖ Grow the number of our graduates who are completing their GME training at UMMS or affiliate sites by a minimum of 25 percent between the first and last year of the five-year planning cycle
- ❖ Lead all U.S. medical schools in student satisfaction as reported by the AAMC
- ❖ Fully launch LEAP

BASIC SCIENCE RESEARCH

**Enable the engine of discovery to generate new, groundbreaking scientific knowledge,
with continued focus on areas of world-class strength**

Our medical school's research enterprise and excellence is founded on an unyielding commitment to basic science and boundless scientific inquiry. Basic research generates new scientific knowledge, opens up new and dynamic fields of study, pushes the frontiers of innovation and impact, and, ultimately, transforms the practice of medicine. The discovery of RNAi by studying the model organism *C. elegans* perfectly and powerfully illustrates how basic research at the lab bench some years later can revolutionize the global scientific community and spawn a novel class of therapies. This seminal discovery led to the 2006 Nobel Prize for Medicine or Physiology being awarded to Professor Craig C. Mello, an historic event that marked the coming of age of our medical school.

As an academic community, we coalesce around the promise of biomedical research to bring hope to the human condition. Basic science research, whether intentionally or serendipitously, enriches our understanding of biological processes and systems. Such research not only brings hope and health but also powers, through innovation and commercialization, our state's global leadership position in the life and health sciences. Our research faculty have leveraged our collaborative and dynamic culture, as well as substantial institutional and external support, to build a truly world-class basic science research enterprise.

Highly regarded basic science departments—led by molecular medicine, the RNA therapeutics institute, molecular, cell and cancer biology, biochemistry and molecular pharmacology, pathology and microbiology and physiological systems, as well as cutting-edge research programs in systems biology, bioinformatics and integrative biology, and gene therapy among others—drive and sustain our dynamic research enterprise.

Given our institutional strength in basic science research, our future efforts will be directed toward bolstering these programs—the cornerstone of our burgeoning research portfolio—and positioning the broader research enterprise to take advantage of emergent and unanticipated scientific opportunities. We appreciate the exponential power of team science, transdisciplinary research and collaboration within and beyond our institution.

Prolific advances in genomic sequencing and technology have generated and will continue to generate meaningful opportunities to broaden the breadth and depth of our basic science activities. We endeavor, now and always, to pursue science that matters and conduct research that makes a difference in the life of one person or the lives of millions of people. We must, therefore, position our basic science enterprise to be an engine of discovery that drives our scientific pursuits. In the years ahead, to advance human health, we will be compelled to integrate, link and align our discovery, translation and commercialization activities to ensure progress and to achieve impact.

The basic science priorities for IMPACT 2025 include the following:

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| Building Research Expertise in Human Genetics | Create a new Program in Human Genetics and Evolutionary Biology and a new Human Genetic Disease Modeling Core |
| Supporting the Engine of Discovery | Provide a robust and flexible platform of enabling technology to support continued leadership in basic science research |
| Promoting Transdisciplinary and Team Science | Encourage and facilitate transdisciplinary, team science that harnesses our complementary and cutting-edge basic science expertise |

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| <p>Investing in Emergent Opportunities</p> | <p>Establish a New Opportunity Fund to take advantage of emerging scientific platforms and fields</p> |
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Building Research Expertise in Human Genetics

A Program in Human Genetics and Evolutionary Biology will augment and advance our research aims, offering our basic scientists a new set of capabilities and expertise that can spark the flame of progress. The creation of a cutting-edge center of excellence in modeling human genetic diseases will amplify our strategic focus on human genetics. Thus, we will create a Human Genetic Disease Modeling Core, a highly specialized platform that will accelerate the discovery process by providing researchers with animal models of human genetic disease, with particular focus on monogenic disorders affecting the brain and spinal cord.

Supporting the Engine of Discovery

Meeting our goals for basic science research will require substantial and continual investment in an era of growing global competition and constrained resources. Our basic science strategic direction assumes that we will re-energize our efforts to expand and diversify our portfolio of funding sources to support all facets of scientific discovery, from fundamental research to faculty training in areas such as entrepreneurship, translational research, and industry and community engagement. Further, it calls for a steadfast commitment to design and deploy a 21st century research computing strategy that will enable our researchers to access, mine and harness the vast collection of data sets available to them.

With the active engagement of key stakeholders, including our clinician-investigators, population health researchers, and drug development and manufacturing colleagues at MassBiologics, we will ensure that our basic science discoveries will continue along the developmental pathway to life-saving therapeutics and products that alleviate suffering.

Promoting Transdisciplinary and Team Science

Our distinctive culture of collaboration encourages the formation of transdisciplinary research teams where wet lab researchers engage with physicists, chemists, physicists, pharmacists, mathematicians, statisticians, epidemiologists, engineers and computer scientists, among others. Our faculty researchers eschew traditional academic boundaries and, indeed, transcend their own disciplines to help inform their colleagues’ work, to capture complexity, to create new and dynamic intellectual spaces and to identify and address novel questions originating from the cross-fertilization of various fields of expertise.

Moving forward, we will identify strategies and solutions to promote the continued growth and expansion of novel transdisciplinary research teams that leverage the power of complementary expertise to innovate and tackle complex, multi-faceted research questions, the results of which could change the course of the history of disease.

Investing in Emergent Opportunities

As we invest in the technologies and platforms of today, we will be prepared for the opportunities of tomorrow. Given the increasing pace of advancement in both science and technology, it is incredibly challenging, if not impossible, to accurately predict those opportunities that will emerge over the five-year planning horizon. Maintaining a pool of flexible and accessible resources to facilitate opportunistic investments in promising new areas of study—including those that may not even exist today—is essential. Therefore, we will create and mobilize a New Opportunity Fund to invest in scientific



progress and the future of biomedical research. The fund, which shall draw from internal and external sources, will support transformational, revolutionary, paradigm-changing science, including dynamic platforms and trailblazing research leaders that can propel our basic science efforts to even loftier heights.

We have established the following major milestones to guide implementation of our basic science direction:

YEAR 1:

- ❖ Identify the leadership and academic profile required for a director of the Program in Human Genetics and Evolutionary Biology and initiate a search process
- ❖ Define the purpose, structure and funding model for the New Opportunity Fund
- ❖ Develop a space and operational plan for the Human Genetic Disease Modeling Core in conjunction with external partners
- ❖ In collaboration with key research stakeholders and IT, establish an *ad hoc* work group on next generation solutions for research computing, data storage and the data sciences

YEAR 2:

- ❖ Hire a director for the Program in Human Genetics and Evolutionary Biology and formally launch the initiative
- ❖ Commence operations in the Human Genetic Disease Modeling Core
- ❖ Execute on the operational plan to fund and to administer the New Opportunity Fund
- ❖ Operationalize strategies to advance research computing, data storage and data science efforts

YEAR 3:

- ❖ Recruit key scientific personnel into the Program in Human Genetics and Evolutionary Biology
- ❖ Continue to prioritize solutions for improving research computing, data storage and the data sciences
- ❖ Grow and expand the Human Genetic Disease Modeling Core
- ❖ Grow New Opportunity Fund reserves

YEAR 4:

- ❖ Continue to recruit scientific personnel into the Program in Human Genetics and Evolutionary Biology
- ❖ Direct additional reserves to the New Opportunity Fund
- ❖ Increase the customer base and revenue at the Human Genetic Disease Modeling Core

YEAR 5:

- ❖ Complete recruitment of personnel in the Program in Human Genetics and Evolutionary Biology

- ❖ Evaluate the effectiveness of the Human Genetic Disease Modeling Core
- ❖ Reach the reserve goal in the New Opportunity Fund

Final Draft

TRANSLATIONAL RESEARCH

Enhance innovation and increase impact by advancing the science of translation and channeling more discoveries into development and practice

Our research enterprise is committed, in spirit and in action, to pursuing science that matters and makes a difference in the lives of patients and populations. While priming the engine of discovery is absolutely essential, scientific discoveries alone will not effectuate the impact we intend to make through our research efforts. In order to advance human health, we must align and integrate our complementary expertise across the research continuum, from basic science to translational research through to regulatory science and outcomes research. Creating a predictable and repeatable research and development process will provide us with key insights, data and evidence, all of which are required to advance the science of translation.

Progress will necessitate having the right combination of people, programs and partners. Our translational research direction builds off our world-class basic science foundation and prioritizes enhancements to our clinical and translational research personnel, expansion of highly specialized programmatic resources, space and capacity, and effective engagement with key partners.

Through strategic affiliations with two of the state's safety net clinical systems (UMass Memorial Health Care and Baystate Health), we share an enduring focus on public engagement and societal benefit. We partner with a broad coalition of stakeholders—community agencies, patient groups, foundations and industry partners—to ensure that the research we support addresses the needs of the communities we serve. A central thrust of our strategy will focus on community-based engagement with new and existing clinical and community partnerships serving as essential and valued learning laboratories for our clinical and translational research endeavors.

Translation of our discoveries into the clinic will benefit from some exceptional and wholly unique assets that are in place such as MassBiologics. As the only university-based, nonprofit, FDA-licensed manufacturer of vaccines in the United States, MassBiologics is an unmatched resource, a veritable biopharmaceutical company embedded within our medical school, which has well-developed capabilities in process development, quality assurance and control, GMP production, regulatory affairs, and project management. Further downstream, UMMS BRIDGE, our business development platform, serves as our primary conduit and connection point to the life sciences innovation ecosystem, as well as a catalyst for innovation, external partnership, commercialization and economic development.

Our UMass Center for Clinical and Translational Science partners with investigators across our university system and our committed clinical partners, most importantly UMass Memorial Health Care and Baystate Health, to ensure that clinical and translational research drives innovation in the clinic and the broader health care delivery system. An important component of this commitment to innovation is patient access to cutting-edge clinical trials, a hallmark of an academic medical center. Our strong clinical partnerships provide us with meaningful opportunities to strengthen our clinical and translational research efforts, including cutting-edge clinical trials.

With these key resources in place, we have a tremendous opportunity to create a seamlessly integrated infrastructure to advance the translation of our scientific discoveries within our broader innovation ecosystem to accelerate our product development pipeline, enable cutting-edge clinical trials that advance knowledge and bring new treatments to the clinic and spur commercialization and external partnership opportunities, and to contribute to the science of translation. All of these activities will yield meaningful and long-term results for our institution, our strategic business units and our primary clinical partners. Most importantly, they will transform our ability to improve care delivery and the health of the patients and communities that we serve.

For 2020-2025, our translational research priorities include:

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| Accelerating Translational Research | Provide support for translational researchers and clinician-scientists along the product development pipeline from discovery to preclinical development and early stage clinical trials in partnership with MassBiologics, UMMS BRIDGE, UMCCTS and our clinical and community affiliates |
| Emphasizing the Data Sciences | Implement a robust data science strategy to provide enhanced data core services and analytics to support the full range of discovery science through to population health |
| Launching an Integrated Biomarker Core | Enhance the medical school’s role in biomarker discovery, as well as point-of-care diagnostic testing and commercialization |
| Investing in Translational Research Talent | Continue to recruit, support and retain top-notch clinician-scientists |

Accelerating Translational Research

Development of new products based on emerging scientific knowledge can transform the diagnosis and treatment of disease, as well as improve health outcomes. To facilitate these worthy goals, we must provide targeted support along the developmental pipeline by deploying an Advanced Therapeutics Initiative. Our initial efforts will focus on creating a preclinical development concierge service, Rapidly Advancing Products in Development (RAPID). This concierge service is expected to provide scalable, repeatable, economical and efficient processes to speed the movement of discoveries to early-stage clinical trials. This will necessitate engagement and partnership with UMass Memorial Health Care, Baystate Health and other stakeholders to expand capacity and dedicated space for early-stage clinical trials. Further, it will require access to resources for preclinical development, targeted facility plans in collaboration with UMass Memorial Health Care and Baystate Health, specialized staff training modules and enhanced regulatory expertise. RAPID will benefit from the unique expertise embedded within the UMass Center for Clinical and Translational Science, MassBiologics, UMMS BRIDGE, the Department of Population & Quantitative Health Sciences and the Massachusetts Medical Device Development Center (M2D2).

As we approach the horizon of this five-year plan, we will be prepared to launch an Advanced Therapeutics Initiative, which will align the full complement of legal, regulatory, process development, biomanufacturing expertise and specialized infrastructure to support the rapid advancement and deployment of a broad range of novel therapies. We will work hand-in-hand with implementation and population scientists to discover generalizable knowledge as we undertake these efforts.

Emphasizing the Data Sciences

Data and the ability to use data appropriately and informatively are foundational to all of our research efforts. Reaching consensus on and implementing a comprehensive research computing and data science strategy will be critical to enabling transformative, data-intensive, basic, translational and population research. Continued partnership with UMass Memorial Health Care on the data lake and engaging Baystate Health to broaden the impact of this initiative represents one central component of this strategy. Another key element would be establishing a center of excellence in research computing and data science that builds upon unique assets and expertise, including, the Program in Systems Biology, the Program in Bioinformatics and Integrative Biology, the Department of Population & Quantitative Health Sciences and Commonwealth Medicine. The first three already contribute significantly to our expertise in quantitative sciences and analytics, while Commonwealth Medicine brings access to substantial and largely untapped patient and population data sets. By working collaboratively, we are positioned to fully leverage our internal assets and capabilities to take our clinical and translational research efforts to new heights.

A strategic focus on research computing and data science is envisioned to provide innovative; agile; cost-efficient; and compliant technologies, tools, and expertise that support and anticipate new scientific directions.

Launching an Integrated Biomarker Core

Recent scientific advances and new technologies are facilitating the identification of a wide range of new biomarkers—measurable laboratory or imaging tests that can signal the presence or risk of disease. Validated, accessible biomarkers are highly useful for improving our understanding of disease mechanisms; for use as clinical trials endpoints; and to predict, diagnose or monitor disease in clinical practice. Our new Integrated Biomarker Core will apply powerful new technologies (genomics, proteomics, metabolomics, imaging technologies, nanotechnologies) and integrative analytics to identify new biomarkers and to develop novel diagnostic devices capable of measuring the growing array of biomarkers. In partnership with UMMS BRIDGE and M2D2, we will develop and commercialize point-of-care testing devices capable of monitoring novel biomarkers at the bedside and in the community to speed diagnosis and treatment and to magnify the impact of our strategic investment.

Investing in Translational Research Talent

Clinician-scientists are uniquely positioned along the research continuum. They serve as a bridge between our fundamental research efforts and our clinical trials and commercialization activities. Consequently, these clinician-scientists can play a pivotal role in working with colleagues attached to UMMS BRIDGE to accelerate the translation and commercialization of novel discoveries into life-saving products that transform lives and the practice of medicine. Given their value to the developmental pipeline, clinician-scientists at medical schools and academic medical centers throughout the country are in extremely high demand.

We will place a strategic emphasis on developing new approaches to growing the cadre of exceptional and entrepreneurial clinician-scientists within the ranks of our faculty. Flexible models of faculty support and targeted funding programs such as the KL2 program will ensure our ability to recruit and retain top-notch translational researchers. We will be intentional about investing in our promising clinician-scientists, aligning training, funding and academic appointments to facilitate their future growth and success.

The following milestones will help guide the implementation of our clinical and translational research direction:



YEAR 1:

- ❖ Design a preclinical development concierge service, Rapidly Advancing Products in Development (RAPID), as the first phase in the Advanced Therapeutics Initiative
- ❖ Develop business and operational plans for the growth and expansion of the data lake and associated analytics
- ❖ Design and deploy a new Integrated Biomarker Core
- ❖ In collaboration with key research stakeholders and IT, establish an *ad hoc* work group on next generation solutions for research computing, data storage and the data sciences
- ❖ Develop a plan for recruiting and retaining clinician-investigators

YEAR 2:

- ❖ Hire a leader for the preclinical development concierge service, referred to as RAPID.
- ❖ Create an Advanced Therapeutics Initiative work group to evaluate facilitating platforms, operational controls, regulatory frameworks, clinical trials management and licensing and commercialization pathways
- ❖ Expand use of and access to the data lake
- ❖ Operationalize strategies to advance research computing, data storage and data science efforts
- ❖ Enlarge roster of industry sponsors and grow revenue from sponsored research agreements

YEAR 3:

- ❖ Increase the number of funded KL2 Scholars Program slots for promising clinician-investigators
- ❖ Grow the Integrated Biomarker Core
- ❖ Continue to prioritize solutions for improving research computing, data storage and the data sciences
- ❖ Build-out the preclinical development concierge service (RAPID) and finalize and begin to operationalize the plan for the Advanced Therapeutics Initiative

YEAR 4:

- ❖ Fully operationalize the Advanced Therapeutics Initiative and work collaboratively with implementation and population scientists to contribute to the science of translation
- ❖ Commercialize newly identified biomarkers as point-of-care testing devices in partnership with UMMS BRIDGE.
- ❖ Continue to invest in the KL2 Scholars Program

YEAR 5:

- ❖ Evaluate the KL2 program and the number of funded clinician-scientists who are in tenure/tenure track faculty positions
- ❖ Successfully develop at least two UMass discoveries through to FDA-approved products

COMMUNITY & GLOBAL IMPACT

Measurably improve the health and welfare of the residents of Massachusetts and the citizens of the world by investing in an enhanced social mission that engages community partners, advances health equity research and promotes public health interventions for the benefit of those greatest in need.

Our mission centers on the health and wellness of the people and communities of the commonwealth and the world. Our social compact manifests itself in numerous and varied ways including, for example, the special and historic role that Commonwealth Medicine plays in supporting, advancing and facilitating the mission and many critical programs of MassHealth.

Among our core and distinguishing institutional values is a foundational commitment to engagement and partnership in all that we do. Indeed, it is this commitment that draws faculty members to our institution and contributes to a growing interest by students to enroll in one of our three graduate schools.

Our faculty, staff and students, imbued with a commitment to public service, not only wish to engage in community and global health projects; they expect to do so. Engaging in our local and global communities provides a growing number of members of our academic community with the opportunity to realize personal satisfaction and professional fulfillment. We derive meaning and sustenance from working in partnership with diverse communities.

Giving this growing demand from within our institution, it will be incumbent upon us to invest in health equity efforts, community-engaged research and global health projects at levels commensurate with the interest we are observing from colleagues and students alike. Such a direction will require new structures that more effectively mobilize passions and align interests with opportunities. Also, it will necessitate new approaches to collaborating and partnering, as well as new protocols, principles and practices that support and streamline community-engaged and health equity research across institutions and borders. Finally, our efforts will be shaped by new evaluation tools that measure our community impact through a rigorous process of assessment and continuous improvement.

With this as context, in the years ahead, our community and global impact priority areas will include the following:

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| Enhancing and Empowering Partnerships | Emphasize the power of our local and global partnerships by deploying enhanced external engagement strategies to amplify the impact of our community-engaged and health equity research and global health projects in Massachusetts and throughout the world |
| Anchoring Regional and State-wide Public Health Priorities | Take on a more meaningful and visible leadership role in promoting health and wellness of special populations in the Central Massachusetts region and across the commonwealth by strengthening our strategic collaborations with key partners, including the Worcester Department of Public Health, the VA and the Massachusetts Executive Office of Health and Human Services. |
| Establishing a Collaborative in Health Equity | Elevate the prominence of and platform for undertaking health equity work near and far by creating a new Collaborative in Health Equity that will emphasize the |

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| | twin pillars of community engagement and global health but will adapt and evolve in response to bilateral learning and listening. |
| Enhancing our Social Mission | Enhance and elevate our institution’s social compact by employing a clearly defined set of social mission metrics in order to measure our effectiveness and to inform targeted strategies that will ensure continuous improvement and accountability. |

Enhancing and Empowering Partnerships

Our strategic direction reflects and reinforces our historic involvement in our communities by giving permanence and prominence to the myriad public service, community-engaged research and global health initiatives undertaken by our faculty, staff and students. From our two decades long commitment to the Worcester Public Schools through our Worcester Pipeline Collaborative to our nearly twenty years’ partnership with the Massachusetts Executive Office of Health and Human Services to our almost fifteen-year strategic affiliation with the Ministry of Health in the Republic of Liberia to rebuild the country’s health care infrastructure and train front-line health care professionals, we have learned that advancing our social compact as the state’s public medical school requires a large network of committed, engaged, active and complementary partners across the globe. It is the power of these strategic and strong partnerships that positions us to contribute meaningfully to health and wellness in the communities we serve.

Moving forward, we will emphasize the promise and potential of our state-wide and global partnerships in order to amplify the collective impact of our community-engaged research, health disparities research, public service and global health efforts. Such a focus will necessitate an enhanced partnership model distinguished by an overarching commitment to bidirectional communication and cooperation. We need—and will benefit from—the experience, expertise and input of our portfolio of partners across the state and throughout the world. Understanding and appreciating their unique perspectives and existing as well as emergent needs, will help to shape our community-engaged research and bolster the long-term impact of our public health initiatives and interventions. Also, we will leverage new technological tools and resources to provide us with an innovative and flexible framework from which to effectively and efficiently engage with our key community and global stakeholders, regardless of geographical, cultural or linguistic differences. Joint grand rounds, virtual meeting and data-sharing platforms, longitudinal research projects and needs assessments will enhance the size, scope and impact of our work in this area. Finally, we will create the necessary infrastructure to support and nurture external partnerships.

Advancing State-wide and Regional Public Health Priorities

Our institution already makes profound and lasting contributions to public and population health as exemplified by Commonwealth Medicine’s model public partnership with the Commonwealth of Massachusetts. Our partnerships with a family of state agencies affords us the opportunity to enhance our mission of service to and engagement with disadvantaged populations across the state. Concurrently, our relationships with agencies such as MassHealth, the Executive Office of Elder Affairs and the Department of Children and Families provide our state partners with access to expertise, research, program evaluation, and policy and clinical guidance resources to improve evidence-based decision-making, all of which help to achieve our aligned public health goals. Over the long term, our partnerships build a shared body of knowledge, experience and best practices that strengthen services addressing both routine and extraordinary health challenges faced by our fellow residents and, at the same time, improve health outcomes and reduce public expenditures.

As an anchor and driver of health and wellness in our region and state, we are uniquely positioned to leverage partnership models such as the ones employed by Commonwealth Medicine to promote health equity at the community level and to serve a broader range of the state’s public health priorities and health care needs. Through our presence, profile and programs, we are a force for good across all parts of Massachusetts and especially in our region. IMPACT 2025 will serve

as our catalyst to take on a greater leadership role in responding to and shaping public health initiatives at the regional and state-wide levels, as well as on a national and global scale.

An initial and special focus will be given to our area veterans, who deserve the highest quality clinical care in a state-of-the-art and readily accessible setting. Our medical school is committed, in spirit and in action, to expanding our growing strategic partnership with the VA by constructing a new, best-in-class VA Community-based Outpatient Clinic on our main campus in Worcester. By building a new VA clinic on a prominent campus parcel, we will demonstrate, in a public and powerful way, our steadfast commitment to the UMass Medical School–VA partnership and, most importantly, to our local veteran population. Further, we will be able to offer our medical and nursing students and residents and fellows meaningful learning opportunities that will prepare them to serve the unique health care needs of our veterans.

Also, our strategic direction calls for us to engage more deeply and actively with existing local and state-wide partners, most notably the Worcester Department of Public Health and the Massachusetts Executive Office of Health and Human Services. Through these partnerships, we will leverage our expertise and infrastructure to make meaningful and enduring contributions to the public health in Massachusetts and to other states and nations.

Establishing a Collaborative in Health Equity

Our medical school’s public mission and commitment to community engagement and global health serve as a powerful recruiting tools to attract service-minded, altruistic and passionate faculty, staff and students. Increasingly, those who come to our institution to learn and to work direct their passions and energies toward promoting health equity and eliminating health disparities. The World Health Organization asserts that health equity “implies that ideally everyone should have a fair opportunity to attain their full health potential and that no one should be disadvantaged from achieving this potential.”

This definition is in perfect symmetry with our social compact as the state’s public medical school. The pursuit of health equity, to a very large extent, encompasses almost all of our community and global engagement commitments. Given that we are fully engaged in advancing health equity at home and abroad, now is the time to declare, in a public and principled way, that, as an institution, we have been and will continue to be a force for advancing health equity.

The growing interest among members of our campus community to engage in such work presents us with an exciting opportunity to solidify our position as a national leader in the field of health equity, which continues to gain relevance as the social determinants of health framework transforms current health care delivery models. While there are pockets of excellence in health equity and health equity research throughout our academic enterprise, there does not exist a central coordinating function that can assess, account for, accelerate and amplify the collective impact of our work focused on promoting health equity.

Consequently, our strategic direction will prioritize establishing, resourcing and empowering a new Collaborative in Health Equity (CHE) to more fully tap into the collective passion and expertise of our faculty, staff and students, as well as the engagement, experiences and viewpoints of our community stakeholders. CHE is envisioned to be an academically rigorous, research-intensive and community-oriented structure organized around the twin pillars of community engagement and global health. While its priorities will be informed through bidirectional communication with community partners, CHE will have a foundational focus on the following areas: understanding the cause of health inequity, testing new interventions that promote health equity, and pursuing and broadening community-engaged research.

As a hub of high-impact and rigorous research, education and training, CHE will help to facilitate internal alignment and external engagement to more effectively integrate our social compact across the full spectrum of community engagement and global health research, education and partnership projects that promote equity and positive health outcomes for those greatest in need.

Enhancing our Social Mission

The social mission of a medical school refers to the contribution of the institution in its mission, programs, and the performance of its graduates, faculty and leadership in advancing health equity and addressing the health disparities of the society in which it exists.

In preserving and promoting our special social compact, we will hold ourselves to the highest levels of performance, and we will recommit ourselves to measuring and enhancing our impact through a process of assessment and continuous improvement based upon clearly defined social metrics, including the breadth of our health equity research. By so doing, we will expand and enrich our contributions to improving the health and wellness of the people of greater Worcester, the commonwealth and beyond.

The following milestones will help to guide our institution's community and global impact:



YEAR 1:

- ❖ Conduct an enterprise-wide current state analysis of our community-engaged and health equity research and partnerships, locally and globally, to measure, demonstrate and communicate our value proposition, results, outcomes and societal impact
- ❖ Design a process that promotes bilateral listening and learning and engages internal stakeholders and community-based partners in an effort to create a new Collaborative in Health Equity
- ❖ Identify and reach consensus on those social mission metrics that will be used to evaluate institutional impact and develop an annual process for assessment and continuous improvement.
- ❖ Leverage the specialized expertise and partnerships found within Commonwealth Medicine and the Department of Population & Quantitative Health Sciences to positively impact health care policy and practice at the state and federal levels
- ❖ Partner with the Office of Educational Affairs and other key stakeholders to broaden community service opportunities and community-based experiential learning options for our students and trainees

YEAR 2:

- ❖ Nurture a broader and deeper working relationship with local, regional and statewide entities that will advance our health equity work
- ❖ Finalize the organizational structure for the Collaborative in Health Equity
- ❖ Launch the new social mission metrics framework for measuring, assessing and improving institutional impact
- ❖ Develop a central database that captures and tracks institutional projects focused on health equity, community-engaged and population health research

YEAR 3:

- ❖ Develop and implement a plan for Collaborative in Health Equity pilot grants that will foster new collaborations around health equity and lead to extramural funding
- ❖ Conduct robust evaluation of our institutional effectiveness in living our social mission using the new social mission metrics
- ❖ Grow and diversify local, statewide and global partnerships that empower community-engaged and health equity research and global health projects

YEAR 4:

- ❖ Formally launch the Collaborative in Health Equity and recruit additional personnel
- ❖ Partner with the Worcester Department of Public Health on at least one marquee project that improves health and wellness in our local communities
- ❖ Improve upon our institutional effectiveness in achieving community impact based upon the defined social mission benchmarks

YEAR 5:

- ❖ Further develop the Collaborative in Health Equity and solidify our institution's national reputation as a leader in health equity and community-engaged research
- ❖ Report out on accountability and continuous quality improvement metrics
- ❖ Secure sustainable funding for the Collaborative in Health Equity

Final Draft

OPERATIONAL EXCELLENCE & FINANCIAL STEWARDSHIP

Establish models for outstanding support services, vibrant working environments and highly efficient infrastructure to propel UMMS to new heights

Realizing the ambitious direction outlined in this plan will be contingent upon outstanding and innovative stewardship of institutional resources and assets. Our medical school straddles three dynamic industry sectors: higher education, health care and the life sciences. Each is marked by increasing competition and rapid transformation. To successfully compete in the broader environment in which we operate, we must exhibit strategic and tactical management as we steward our treasured public medical school and position it for another 50 years of success and impact.

Over the next five years, we will support and incentivize our people, prioritize our resources, align our management decisions and leverage our physical plant to fully achieve the goals of IMPACT 2025 and propel our institution to new heights of success and impact. Our plans for managing talent, finances, facilities and technology—all of which are strategic enablers—will be supportive of the broader institutional direction outlined in this plan.

Importantly, our efforts toward this end will be inclusive of the component parts of the UMass Medical School enterprise, from academics and research to fundraising and business development. Commonwealth Medicine, MassBiologics, and other specialized centers of excellence, highlighted by UMMS BRIDGE and the Office of Advancement, will be integral to our goal of reaching a new level of operational excellence.

The many and varied parts of our institution will be working in unison to harness our vast capabilities, competencies and expertise in service to our core mission areas. Our future direction will start with a new people strategy that embraces diversity and inclusion, as well as entrepreneurship and innovation, as essential business imperatives. It will emphasize optimizing our information ecosystem, utilizing artificial intelligence and novel technological solutions to transform operations and reduce expenditures. It will leverage Commonwealth Medicine, MassBiologics, UMMS BRIDGE and the Office of Advancement, all of which help to extend the presence and prestige of our medical school and generate essential revenues that we can reinvest in our academic mission. And, it will ensure that our facilities management and space planning functions are aligned with and responsive to IMPACT 2025’s priorities, which include two new campus buildings: the new VA Community-based Outpatient Clinic (CBOC) and a cutting-edge research facility.

For the next five years, our specific priorities to realize our strategic direction in operational excellence and financial stewardship include the following:

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| Becoming an Employer of Choice for an Exceptional and Diverse Workforce | Develop and deploy a people strategy that positions our institution as an employer of choice, recognized for attracting, developing and retaining talent and embracing diversity and inclusion as a primary building block of our culture |
| Providing Innovative Enterprise-wide Technology Solutions | Provide reliable, secure, scalable and innovative technology platforms and solutions for all areas of our enterprise |
| Modernizing and transforming campus infrastructure | Continually update our physical plant to support and enable our world-class vision, empower innovation, accommodate growth and expansion, and allow for flexibility |

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| <p>Leveraging and Connecting Commonwealth Medicine and MassBiologics</p> | <p>Fully leverage the unique capabilities and assets of Commonwealth Medicine and MassBiologics to maximize impact and heighten mission achievement</p> |
| <p>Enhancing and Expanding Philanthropic and Industry Partnerships</p> | <p>In collaboration with our specialized centers of excellence, UMMS BRIDGE and the Office of Advancement, attract new philanthropic and industry partnerships that increase and diversify institutional resources</p> |

Becoming an Employer of Choice for an Exceptional and Diverse Workforce

The next five-year period will witness a major transformation in our talent strategy. In partnership with our Human Resources team and all departments and hiring managers, we will deploy a comprehensive framework in furtherance of our greatest asset—our people. Our objective is to emerge as the employer of choice for top tier talent. To this end, we will focus on building an entrepreneurial and innovative organizational culture that is aligned with our mission; that emphasizes organizational learning; and that is characterized by an agile, service-oriented, diverse, collaborative, high performing, professionally competent, engaged and accountable workforce.

Our success and competitiveness will depend on our ability to embrace diversity and inclusion as essential business imperatives and recognize the value that will result therefrom. In partnership with our Human Resources and Diversity and Inclusion Offices, we will launch a new and enhanced learning and training program targeted to diversity and inclusion competencies. Further, we will continue efforts aimed at ensuring our workforce is representative of the diversity of our surrounding cities and towns. There exists a rich and diverse talent pool in our region and state, and we will be proactive in recruiting and hiring the rich diversity of our local communities.

Providing Innovative Enterprise-wide Technology Solutions

Successfully realizing the goals of IMPACT 2025 will require a strategic focus on providing our people and programs with comprehensive and cutting-edge technology services and solutions in a timely and cost-effective manner. Technological advances present us with an incredible opportunity to catalyze and sustain innovation by unleashing the power of information technology solutions to transform how we operate and manage the enterprise.

Over the next five years, we will change the IT paradigm from an “update and maintain” approach to a “value add” orientation. We will utilize the hybrid cloud and automation solutions to deliver outstanding IT services, we will introduce novel operational methodologies and enhanced capabilities in strategic areas such as IT security, we will refine skillsets and expand innovative research, and we will change our technology-based budgeting and investment practices.

Modernizing and Transforming Campus Infrastructure

The recent completion of a new Campus Master Plan dovetailed nicely with our IMPACT 2025 planning process. We are fortunate to be in a position to incorporate many key considerations and recommendations emanating from the strategic planning process into the conceptual design of the Campus Master Plan. There are clear synergies and alignment between our strategic and master plans. Both blueprints for our future consider the potential expansion of our MD degree program and a move toward tailored, self-directed and technology-enabled pathways of study, as well as interprofessional, team-based and small-group learning. Moreover, both plans reflect critical institutional priorities, particularly in the areas of basic and translational science and health and wellness.

We want our physical plant and associated facilities to reinforce the dynamism and prestige of our academic and research programs; enable and empower the continued growth and accomplishment of our medical school; and, most importantly, respond to the evolving needs of our faculty, staff and learners.

To this end, we will prioritize the continued growth of our physical plant, highlighted by the successful construction of two high profile, campus-based structures. The first will be the VA of Central and Western Massachusetts' Community-based Outpatient Clinic in Worcester. The second will be a state-of-the art research facility that will house our new Program in Human Genetics and Evolutionary Biology, as well as existing research programs of international acclaim such as the Horae Gene Therapy Center, the Program in Molecular Medicine, the Department of Neurobiology and the Program in Neurotherapeutics.

Leveraging and Connecting Commonwealth Medicine and MassBiologics

Embedded within the UMMS enterprise are two strategic business units that are wholly unique to our institution and serve to distinguish us from all other medical school across the nation. By leveraging fully the breadth and depth of resources, expertise and platforms found within Commonwealth Medicine and MassBiologics, we will be poised to achieve a new level of impact and influence throughout the world.

Commonwealth Medicine

Commonwealth Medicine, our health care consulting and operations division, is a large and comprehensive professional services organization that partners with clients in Massachusetts and beyond to improve the health and well-being of a wide range of populations. Commonwealth Medicine's expertise and platforms help state and federal agencies, beginning with the Massachusetts Executive Office of Health and Human Services, create and apply customized health care solutions—from offering innovation on clinical, policy and financial challenges, to developing and administering entire programs serving vulnerable populations. Commonwealth Medicine's impact in Massachusetts alone is profound, pervasive and permanent. Through its solution-based platforms in clinical delivery, health care financing, public and private health, growth and technology, and business transformation, the division has emerged as a major contributor to and driver of the state's health care ecosystem. The mission-enhancing work undertaken by Commonwealth Medicine also generates essential resources that enables continual reinvestment in our academic enterprise.

Commonwealth Medicine's personnel, programs and partnerships present our medical school with an unmatched opportunity to accelerate and amplify our impact across populations, state lines and national borders. By supporting the evolution and transformation of Commonwealth Medicine, we can take full advantage of a strategic asset that can have a lasting impact at scale. In the years ahead, we will ensure that our academic departments such as Population and Quantitative Health Sciences are connected to and aligned with Commonwealth Medicine's programmatic offerings. Similarly, we will work with Commonwealth Medicine to leverage its access to large population health data sets to transform our clinical, translational and population-based research efforts.

From an operational perspective, we will align more effectively Commonwealth Medicine's business practices, operational processes, organizational structures and expertise to the changing needs of the client base that come to us for innovative health solutions. By so doing, we will facilitate the division's further growth in strategically important and niche areas.

MassBiologics

Our medical school has the distinction of operating the only university-based, nonprofit, FDA-licensed discoverer and manufacturer of vaccines and other biologics in the United States. MassBiologics has a 125-year history of contributing to new and life-saving medicines and vaccines, the impact of which is astounding. Today, the division advances our mission in myriad ways—from preparing the biopharmaceutical leaders of tomorrow to supporting our research enterprise and the translation of discoveries into medicines that improve lives. MassBiologics adds significantly to the dynamism and vitality of our medical school enterprise and we will fully leverage its unparalleled expertise in process development, project management, quality control and biomanufacturing to position our institution as a leader in developing licensed products that save lives and elevate the human condition around the world. Doing so will require strategic and targeted investments in emerging scientific platforms that align with the strengths of our world-class research enterprise. Also, we will tap into

MassBiologics' considerable network of international partners and global health expertise to expand the presence, research and global impact of our medical school.

Enhancing and Expanding Philanthropic and Industry Partnerships

Partnership is a major theme of IMPACT 2025 and a major factor that accounts for our impressive growth trajectory over the years. Our medical school has been fortunate, indeed, to benefit from the generous support of committed philanthropists locally and globally. Moreover, robust collaboration with key industry partners has helped to catalyze our research enterprise and entrepreneurial efforts. As we look to the future, we will explore and implement a more effective partnering paradigm that positions our institution as the partner of choice for both philanthropic and industry stakeholders.

Office of Advancement

With strong philanthropic support from various constituency groups, we have greatly expanded our research capabilities, leading to a number of ground-breaking discoveries that have moved from the bench into the clinic. Beyond this, we have furthered UMMS's educational endeavors, increased financial aid offerings, grown the number of endowed chairs to 50, and secured funding for global and community initiatives. This noteworthy progress has been fueled, in large part, by our committed and growing group of philanthropic partners.

As we look ahead, we will capitalize on the momentum from the Pathways of Promise campaign. Our Office of Advancement will expand fundraising capabilities as we continue efforts to transform the curriculum in new and innovative directions, bolster our world-class basic science programs; jumpstart our strategic emphasis on human genetics; and accelerate the development of life-saving therapeutics. Meeting these institutional needs will require focused efforts on building relationships with and securing transformational gifts from foundations and major donors, from both national and international sources. Our Office of Advancement envisions launching a new fundraising campaign during the years of this plan to help our institution realize the ambitious goals established in this strategic plan.

UMMS BRIDGE:

Our medical school has profound strengths in both the basic and translational sciences. Perhaps, even more importantly, we have cultivated a collaborative culture that has enabled outstanding partnerships across these two arenas. As a result, we have been fortunate enough to have faculty contribute substantially to the invention of several life-saving and life-enhancing medicines, with many more to come. Furthermore, several of our faculty have been directly involved with co-founding companies that have profound implications for regional economic development.

As we look to the future, we will strive to organize and structure UMMS BRIDGE so that it can become the partner of choice for industry. In so doing, we will bring industry's perspectives and unmet needs into the institution and enrich the research questions we ask, translate our inventions into therapies, and attract a deeper pool of resources to our institution.

We will achieve our strategic direction in operational excellence and financial stewardship by accomplishing the following milestones:



YEAR 1:

- ❖ In partnership with HR, develop an internal career management model for all employees and offer personalized Individual Development Plan (IDPs) to facilitate personal career and professional development goals

- ❖ In collaboration with DIO, develop a learning and training program to educate UMMS community members about the importance of diversity and inclusion and create a plan to attract, hire and optimize a workforce that is representative of our region's diversity
- ❖ Oversee the construction of the new VA Community-based Outpatient Clinic
- ❖ Finalize the design, location and programmatic plan for a new, cutting-edge research facility on campus
- ❖ Partner with key stakeholders to develop business and operational plans for the following strategic initiatives: Program in Human Genetics and Evolutionary Biology, a Human Genetic Disease Modeling Core, New Opportunity Fund, Integrated Biomarker Core, preclinical development concierge program (RAPID)/Advanced Therapeutics Initiative, and the Collaborative in Health Equity
- ❖ Initiate an enterprise-wide process to develop targeted IT strategies and corresponding governance structures for research computing, computational analysis, data storage and the strategic business units
- ❖ Engage stakeholders in a process to redesign our learning environments to accommodate growth and to promote wellness, interprofessional education and innovative teaching methodologies
- ❖ Develop a new marketing and branding strategy for Commonwealth Medicine that elevates its profile, reputation and market competitiveness
- ❖ Design a new organizational model for UMMS BRIDGE to more effectively engage external partners

YEAR 2:

- ❖ Finalize an enterprise-wide IT and technology plan that includes recommendations relative to appropriate IT governance structures, as well as research computing and data storage solutions.
- ❖ Execute on an enhanced business development and growth strategy at Commonwealth Medicine that emphasizes nongovernmental and out-of-state revenue
- ❖ Build-out MassBiologics' drug development platform by developing competencies in GMP production of oligonucleotide and protein therapeutics and cell and gene therapies
- ❖ Substantially complete construction of the VA Community-based Outpatient Clinic
- ❖ Begin construction of the new 200,000+ square foot, state-of-the-art research facility, which also will accommodate some of the expanded space needs for our innovative educational programming
- ❖ Initiate renovation of existing learning spaces to support the programmatic design of the Leadership/Education Academy Program (LEAP)
- ❖ Partner with key stakeholders to develop recruitment plans for the following strategic initiatives: Program in Human Genetics and Evolutionary Biology, a Human Genetic Disease Modeling Core, New Opportunity Fund, Integrated Biomarker Core, preclinical development concierge program (RAPID)/Advanced Therapeutics Initiative, and the Collaborative in Health Equity
- ❖ Begin to launch Individual Development Plan (IDPs) for employees and an enhanced diversity training and recruitment strategy

- ❖ Lay the groundwork for the launch of a new UMMS capital campaign overseen by our Office of Advancement

YEAR 3:

- ❖ Partner with key stakeholders to manage the following strategic initiatives: Program in Human Genetics and Evolutionary Biology, a Human Genetic Disease Modeling Core, New Opportunity Fund, Integrated Biomarker Core, preclinical development concierge program (RAPID) /Advanced Therapeutics Initiative, and the Collaborative in Health Equity
- ❖ Open the new VA Community-based Outpatient Clinic on the main Worcester campus
- ❖ Continue construction of the new research facility
- ❖ Emerge as a statewide leader in contract manufacturing by maximizing the operational capacity of MassBiologics' Contract Manufacturing and Development Portfolio
- ❖ Continue to resource the New Opportunity Fund
- ❖ Roll out enhanced diversity training across the UMMS enterprise
- ❖ Finalize the structure and fundraising plan for a new UMMS capital campaign

YEAR 4:

- ❖ Complete construction of the new research facility
- ❖ Continue to engage and partner with key stakeholders to build and sustain following strategic initiatives: Program in Human Genetics and Evolutionary Biology, a Human Genetic Disease Modeling Core, New Opportunity Fund, Integrated Biomarker Core, preclinical development concierge program (RAPID) /Advanced Therapeutics Initiative, and the Collaborative in Health Equity
- ❖ Operationalize the major elements of the Leadership/Education Academy Program (LEAP)
- ❖ Announce publicly the start of the new UMMS capital campaign

YEAR 5:

- ❖ Oversee the relocation and transition of personnel and programs to the new research facility and ramp up research operations
- ❖ Achieve year-over-year improvements in diversity hiring and become recognized as one of the “best places to work”
- ❖ Complete all programmatic and capital requirements for the Leadership/Education Academy Program (LEAP)
- ❖ In partnership with the School of Medicine, welcome the largest first-year class in the school’s history