

We are a leading academic health sciences center, consisting of the University of Massachusetts Medical School and UMass Memorial Health Care, with a common purpose to serve the public interest.



FY2009 - 2014



Academic Health Sciences Center
Strategic Plan



Introduction

We are a leading academic health sciences center, consisting of the University of Massachusetts Medical School (UMMS) and UMass Memorial Health Care (UMass Memorial).

Over the years, while separately serving our patients, learners, faculty, staff, and communities, we each have been committed to aligning our efforts seamlessly in order to achieve our shared mission of advancing the health and well-being of the people of the commonwealth and the world. As a result, much of the work of UMMS and UMass Memorial has become inextricably linked, with the success of each organization being dependent on the other.

While some of the component parts of our enterprise have established plans for the future, this strategic plan was created to cross historic borders in order to create a framework for the whole system, bringing together school and clinical system, basic science and clinical departments, educators and researchers. Its common objectives form a blueprint for the paths and priorities we will follow over the next five years to collectively achieve our stated goals, which were created through consensus by representative groups of both organizations.

To construct this watershed document, we integrated the existing clinical system plan into a new combined plan, thus providing the academic pillar so important for the successful execution of the clinical system plan, while also creating the first comprehensive strategic plan for the Medical School. This approach leverages the combination of our individual and exceptional capabilities, which should enable both organizations to flourish, not just function, in the future.

Mission

Our mission is to advance the health and well-being of the people in the commonwealth and the world through pioneering advances in education, research, and health care delivery.

Values

As a combined enterprise, we value:

- improving health and enhancing access to care for people within our community, the commonwealth, and the world;
- excellence in achieving the highest quality standards in patient care and satisfaction, education, and research;
- common good as an institutional focus, exercised both internally and externally;
- collegiality as we work through a shared vision for the common good;
- integrity in decision-making and actions held to the highest ethical standards;
- diversity promoted within our institution to foster an atmosphere of compassion, courtesy, and mutual respect, stimulating inventiveness and broadening our talents and perspectives;
- academic opportunity and scholarship through high-quality, affordable educational programs for the training of physicians, nurses, advanced practitioners, researchers, and educators; and
- scientific advancement made possible by embracing creative thinking and innovation to yield an understanding of the causes, prevention, and treatment of human disease for the pursuit of knowledge and the benefit of people everywhere.

Vision

To become one of the nation's most distinguished academic health sciences centers, we seek to:

- achieve excellence in the practice of safe, high-quality care;
- design and implement innovative educational methods to train educators, clinicians, and scientists to meet the future health care workforce needs in Massachusetts and the United States;
- develop educators, clinicians, and scientists who are equipped to become the next generation of outstanding leaders in health care;
- develop and capitalize on the strengths of all staff who provide the operational support for an academic health sciences center;
- nurture ongoing progress in the basic sciences to fuel breakthrough discoveries that will transform the practice of medicine;
- translate scientific discoveries to improve patient outcomes and address the root causes of poor health; and
- partner to create and optimize health care initiatives that improve the health of the communities we serve.

1 STRATEGIC GOAL

Design the Future Model of Health Care Delivery

Today's health care delivery model will be fundamentally transformed by change occurring relatively quickly over the next few years. We expect calls for affordable health care to intensify, and, as a result, health care payment systems increasingly will emphasize doing what is appropriate and necessary for each patient rather than doing more. There will be continued acute focus on the quality and value of health care services, so that all providers of health care will be required to demonstrate that the care they provide is safe, effective, timely, efficient, and equitable. The future model will need to be patient-centric with enhanced coordination of care among patients, providers, and payers. Also, it will need to integrate an ever-increasing body of scientific knowledge of both generalized best practice (evidence-based medicine) and individualized best practice (personalized medicine).

In essence, we anticipate a health care revolution. Our goal, therefore, is to be a forerunner in creating the future model of its delivery. We must start by leading in the design and implementation of evidence-based medicine and in the design and testing of both new systems of care and new approaches to health care financing. Building on our long-standing mission of primary care education, we must investigate ways to re-design and re-brand primary care medicine. We must become experts in implementing new approaches to care models and in teaching others how to implement them. Because patients will have a defined and empowered role in planning the development of the way and environment in which care is delivered in the future, interaction with and within our community, and incorporating preventive medicine, will be of paramount concern.



Recommendations

Our priorities for creating the future model of health care delivery are to:

- 1 comprehensively integrate the six domains of quality care (safe, effective, patient-centered, timely, efficient, and equitable) in our research and our educational and clinical programs in order to create a system of care that is distinguished by its emphasis of and achievement in quality;
- 2 build a network of primary care providers that is noted for its capability to provide coordinated personalized care, ready access, and highly effective management of chronic diseases as well as preventive medicine;
- 3 implement an enterprise-wide electronic health record (EHR) that facilitates dissemination of information and improvement in clinical performance, efficiency, and clinical research. This EHR will serve as the integrating framework for our entire system of care;
- 4 continue to grow our clinical system by increasing the number of patients from Central New England who receive their health care from the UMass Memorial system and by building stronger partnerships with member and affiliated hospitals and practitioners;
- 5 continue to build comprehensive clinical Centers of Excellence (CoE) for care of patients with the leading causes of premature death and disability (currently heart and vascular disease, cancer, musculoskeletal disease, and diabetes). Each CoE will provide cutting-edge care, serve as a training center, and undertake pioneering clinical research;
- 6 serve as a laboratory for new health care delivery models and emerging diagnostic and treatment modalities and commit to research on new methods to ensure delivery of the highest quality, patient-centered, and cost-efficient health care for our community;
- 7 embed clinical research throughout the care delivery system to allow patients access to innovative treatments; and
- 8 incorporate the care of underserved populations in a delivery model by providing a safety net and integrate expertise in Commonwealth Medicine to improve quality, safety, and effectiveness of serving these populations.



Build the Workforce of the Future

Projecting the future need and supply of health care professionals is an ongoing challenge, with estimated shortages or surpluses often subject to much debate. Yet virtually all agree that outstanding medical education, research, and clinical care must start with a solid foundation in an exceptionally well-prepared and diverse workforce.

UMMS is one of the fastest growing medical schools in the country, and together with its clinical partner, UMass Memorial, it has built a reputation as a world-class research, teaching, and service delivery institution. By virtue of our distinguished history and promising future, we are uniquely positioned to build the workforce of the future, to serve the needs of our community, the commonwealth, and the world.

Together we are committed to being an academic health sciences center on the cutting edge of educational, technological, scientific, and medical advances. Our goal is to build a diverse, representative, inter-professional workforce able to support this future state. Toward this end, we must partner with our community, both locally and globally, to develop the pipeline for the workforce of the future. We must continue to show innovation in multiple arenas—interprofessional learning and experiential learning, among others—and to focus both on contemporary competencies and leadership development across the educational experience. Perhaps most important, we must attract and retain faculty who are lifelong learners and who can inspire students to become lifelong learners themselves.

Our commitment to building the workforce of the future has multiple components. At the core is our mission to teach and train nursing students, medical students, and graduate students, preparing them for service locally, regionally, and globally. Also critical is the continued expansion of opportunities for post-graduate trainees as well as continuing medical education and on going support of all staff. Furthermore, we adhere to a common principle for performance management that emphasizes accountability at all levels.

Permeating all of these efforts must be a strong and enduring focus on achieving diversity among our student population, faculty, and clinical workforce. The issue of diversity requires special consideration. The recently released Roadmap on Diversity from the Association of American Medical Colleges (AAMC) reflects the benefits accrued by all learners from immersion in a diverse population. These include, and we affirm, the following:

1. enhanced quality of education for all learners;
2. more effective and culturally competent physicians and nurses, better prepared to serve a varied patient population;
3. a more diverse output of graduates who may be more likely to provide access to care for underserved communities; and
4. improved ability to address health care disparities.

Recommendations

Our priorities for building the workforce of the future are to:

- 1 enhance the mechanisms for enrollment expansion and management through pipeline programs, pre-doctoral programs, post-graduate training in graduate medical education and post-doctoral biomedical sciences, and continuing professional education. The underlying principle will be to continually monitor and improve our ability to respond to specific workforce needs in our community, the commonwealth, and the world. These tasks will be undertaken in partnership with the other campuses of our university, with particular attention to expanding opportunities for UMass students who have disadvantaged backgrounds;
- 2 pursue educational program innovation to prepare our learners—scientists, professionals, clinical problem solvers, advocates—for competencies of the future. Consider:
 - a. new degrees and combined degree programs;
 - b. comprehensive curriculum renewal for the School of Medicine;
 - c. residencies and fellowship innovation;
 - d. Center for Experiential Learning and Simulation as a UMMS-wide resource;
 - e. establishment of educational research and evaluation as a core UMMS-wide resource; and
 - f. administrative and operational strategies to facilitate interprofessional learning.
- 3 enhance the quality, diversity, and depth of our student, resident, and fellow population and our clinical education workforce to keep pace with expanding enrollment, curriculum innovation, health disparities, and the evolving demographics and health status of our communities;
- 4 develop resources to facilitate faculty advancement, leadership development, and team development across the Academic Health Sciences Center by offering training in such areas as strategic planning, constituency building, team leadership and membership, resource management, communication, supervision, delegation, fundraising, and self awareness; and
- 5 maintain ongoing feedback between the administration and various constituent groups, including the Women’s Leadership Planning Group and Minority Faculty Subcommittee, in order to attract, retain, and enrich women and minority faculty and leaders for our combined enterprise.



Design an Ideal Learning Environment

In addition to focusing on who we educate and how we guide their educational pursuits into the future, we must ensure a supportive environment that is both consistent with our values and conducive to the outcomes we hope to achieve.

To become a leading academic health sciences center, we must improve our future learning environment by providing the educational and technological resources and infrastructure necessary for contemporary learning and by developing a culture that is permeated by lifelong learning, kindness and professionalism demonstrated in both actions and words, and transparency surrounding all interactions. Our

faculty must consistently model and practice the highest levels of professionalism and we must abide by the highest standards of quality in an environment of continual quality improvement.

We seek to establish an enterprise-wide educational framework that unifies our diverse schools and educational programs and promotes excellence, innovation, and collaboration across their continuum. Speaking with one voice and working together in areas of shared need and common interest, we propose the integration of infrastructure across the educational enterprise as the foundational initiative upon which we can build our strategic efforts.



Recommendations

Our priorities for improving the learning environment are to:

- 1 maintain and enhance a learning culture with core values that ensure respect for individuals, the importance of diversity, and modeling of professional standards of conduct in all teacher–learner interactions;
- 2 create an integrated infrastructure across the UMMS educational enterprise to support the integrated missions of the UMMS educational programs (three schools) by providing critical infrastructure and guidance to ensure efficiency and effectiveness, enabling all schools and programs to act in concert, and enhancing opportunities for interprofessional development and collaboration. We must include two major spheres of activity: educational affairs and common student services;
- 3 provide an educational home—including the space, amenities, technology, communications infrastructure, and values—to ensure optimal teaching, learning, and well-being for our learners, both on the UMMS campus and in off-campus training sites; and
- 4 expand and enhance educational partnerships/affiliations to support the growth of our educational programs and ensure optimal choice, quality, diversity, and “best fit” for our learners in their educational and research experiences. Consider:
 - a. clinical affiliations within UMass Memorial and its member hospitals;
 - b. affiliations with UMMS programs and initiatives including Commonwealth Medicine, the Life Sciences Initiative, and the Clinical and Translational Science Award;
 - c. affiliations with other University of Massachusetts campuses;
 - d. international educational affiliations; and
 - e. affiliations with K-16 partners for pipeline initiatives.

Translate Discovery Into Practice

As an interprofessional campus engaged in ongoing research and community service, we seek to transform our world-class clinical and translational research enterprise in order to bring scientific discoveries into clinical application and to overcome barriers in translating knowledge into practice. In so doing, we intend to seize this opportunity to revamp graduate education in the health sciences, training physicians, scientists, and nurses for practice, research, and leadership in the information age.

Our goal is to move discovery into practice through successful translational research and dissemination and implementation with and within our community. To achieve this goal, we need to design space and implement systems and initiatives that promote interaction between basic scientists, clinical research specialists, and clinicians. As a combined entity, we must build and maintain the high-tech facilities that are needed to support both research and the delivery of state-of-the-art clinical care. Of equal importance will be the development of joint information stems to enable discovery, development application, and community health. Because we have invested in the infrastructure and environment to recruit and retain renowned

basic scientists, we must do the same for clinical research specialists and clinicians. We have built a successful basic science enterprise. In order to reach the next level as a top academic health sciences center, it is essential to maintain that success while simultaneously building our clinical research efforts.

It is incumbent upon us to hire experienced senior faculty and clinicians to direct development of translational research while working aggressively to ensure continuity by retaining the best people already working with us. Finally, to ensure the required revenue streams, it will become increasingly important to enhance intellectual property as well as development connections with basic and clinical scientists.

Our research endeavors cannot be limited to the basic and clinical sciences, but must include efforts to evaluate and create with respect to health care delivery systems and financing. We seek to be an innovator in conceiving new models of health care delivery, which cannot be accomplished without a commitment to devote research time and resources to the design, testing, and evaluation of alternative models.



Scope of Translational Research Within the UMass Center for Clinical and Translational Science

The NIH Roadmap has reaffirmed the social contract implicit in the acceptance of NIH funding; namely, that the research community, in accepting taxpayer dollars, is obliged to be responsive to the needs of the U.S. population. In a similar manner, the community of UMass investigators, while retaining the prerogatives of academic freedom, nonetheless shares a responsibility to the citizens of the commonwealth to be responsive to their needs.

The NIH Clinical and Translational Science Award (CTSA) program is designed to enhance the beneficial impact that NIH-funded discovery has on the general public. In response to the call for CTSA applications, UMass has begun to construct a set of research and educational resources with the purpose of serving as a research home for clinical and translational researchers and of facilitating outreach to the community. This five-campus network will be known as the UMass Center for Clinical and Translational Science (CCTS). Once actualized, the Center will facilitate the design, conduct, and analysis of patient- and population-oriented research and dissemination in all its forms. Also, it will serve as a home for education in the field of clinical investigation and will support faculty development in this area.

The underlying definition and scope of translational research within the UMass CCTS will include all efforts to enhance the impact of scholarly endeavors on benefiting the human condition. Thus, it will include, but not be limited to, the T1 (bench-to-bedside), T2 (bedside-to-community), and T3 (dissemination-to-practice) realms.

The configuration of the CCTS reflects its five-campus nature and the domains that must be served in order to be responsive to the CTSA RFA. All UMass faculty participating in any form of translational research, as defined above, will be eligible to become CCTS members and will be eligible to access core and educational resources at an on-campus fee rate. Also, they will be eligible to apply for pilot grant funding, to participate in an annual intercampus scientific meeting, and to share in certain common informatics and library resources.

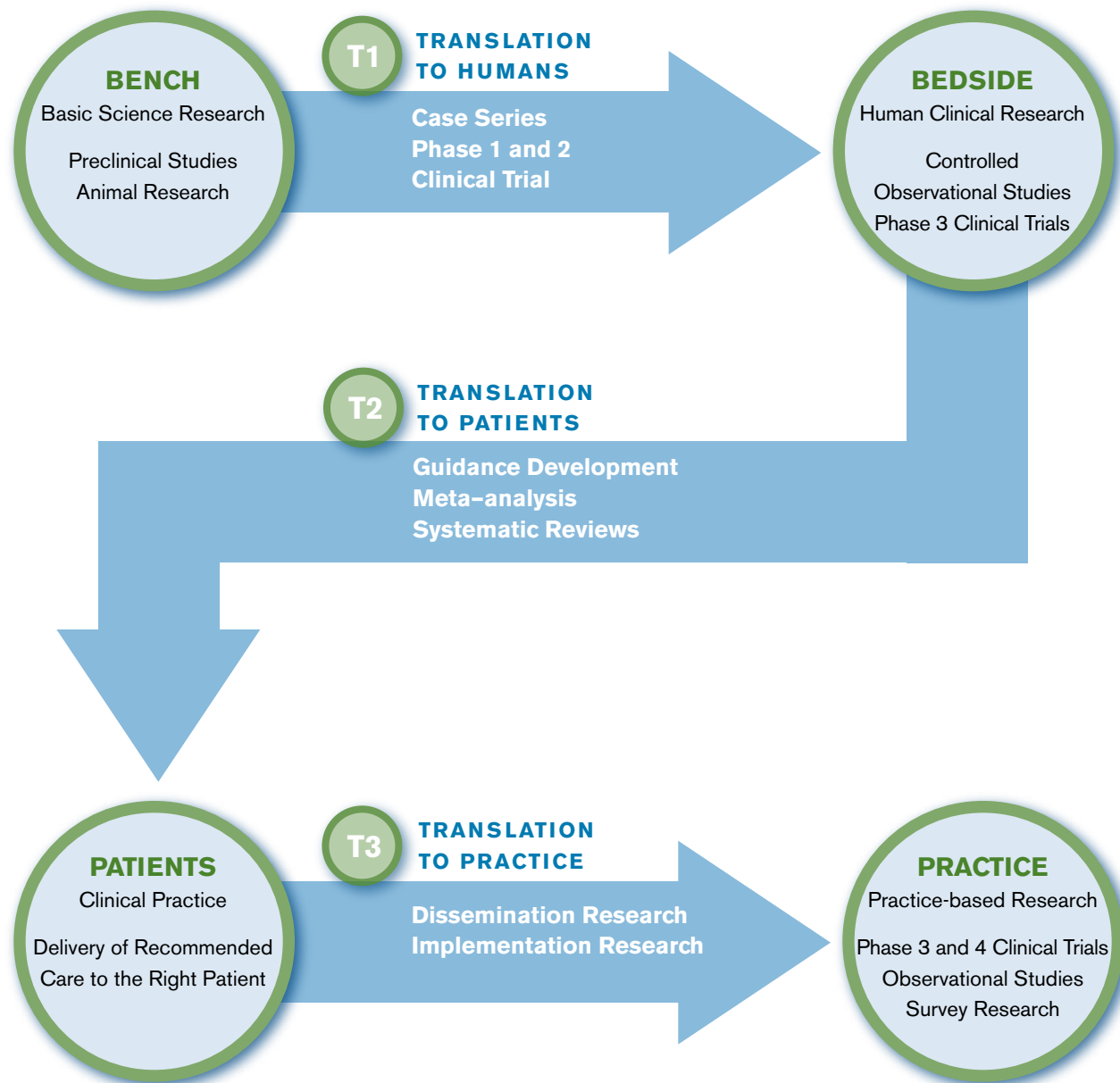
We hope that CCTS will facilitate greater efficiency and productivity of UMass investigators across the five campuses, as each strives to make the greatest possible impact in translational research and the broader life sciences.

Strategic Goal 4 continues

4
STRATEGIC GOAL

Scope of Translational Research, *continued*

The underlying definition and scope of translational research within the UMass Center for Clinical and Translational Science will include all efforts to enhance the impact of scholarly endeavors on benefiting the human condition. Thus, it will include, but not be limited to, the T1 (bench-to-bedside), T2 (bedside-to-community), and T3 (dissemination-to-practice) realms.



Recommendations

Our priorities for translating discovery into practice are to:

- 1 recruit and retain a cadre of outstanding leaders across the broad spectrum of clinical and translational research. We will prioritize recruitment of investigators in our four existing Centers of Excellence and other emerging areas of emphasis such as the neurosciences;
- 2 build strong capabilities in clinical trials, population- and practice-based research, study design and analysis, medical informatics, and implementation science in the Department of Quantitative Health Sciences;
- 3 develop research in emerging diagnostics and therapeutics through development of the bioinformatics program and the Advanced Therapeutics Cluster that will strive for the recruitment of superior scientists in RNA biology, gene therapy, and stem cell research;
- 4 create a University-wide Center for Clinical and Translational Science as a vehicle to create a transformative, novel, and integrative academic home for clinical and translational science and core resources including an infrastructure for education and training, a data warehouse, and the Conquering Diseases Biorepository;
- 5 maintain and augment our competitive edge as a world-class basic science enterprise by continuing to recruit and retain outstanding basic scientists while supporting and maintaining the basic science research infrastructure, i.e., state-of-the-art core facilities;
- 6 develop research on new methods to ensure delivery of the highest quality efficient health care in order to change the way medical care is delivered in the future locally and globally; and
- 7 actively participate in the University of Massachusetts five-campus Life Sciences Initiative.



Be a High Performance/High Reliability Organization

Every administrative and leadership structure should exist to serve a function that facilitates the mission of the UMass Academic Health Sciences Center. After many years of working as one enterprise prior to 1998, and many years operating as two distinct but linked entities post-1998, both organizations are now committed to promoting an environment of acting as a single enterprise. We recognize that we cannot and will not be successful in achieving our strategic vision unless we create a solid foundation that eliminates barriers between us.

As the world changes with startling rapidity, our challenges intensify each day. We cannot simply strive to maintain current levels of performance; we must commit to raising the bar for all outcomes. Our goal is to be a high performance/high reliability organization, one that sets the standard that others will try to emulate. As part of this commitment, we endeavor to be a learning organization, always pursuing new information, insights, and innovations.



Recommendations

Our priorities for being a high performance/high reliability organization are to:

- 1 create a horizontally integrated leadership culture that enables dialogue, mutual education, and fact-based decision making as a combined entity;
- 2 plan for and deploy integrated information systems to facilitate seamless communication and information sharing across the enterprise;
- 3 plan for our collective facility needs and appropriately allocate these physical resources to ensure the best and highest use and support of our shared vision;
- 4 create and pursue an integrated strategy for workforce planning and development;
- 5 coordinate development efforts, jointly setting funding priorities by department and for the overall enterprise;
- 6 achieve a common brand and integrate messaging for both internal and external audiences; and
- 7 ensure the necessary infrastructure (i.e., compliance, standards, and systems) to greatly elevate clinical research activities.

Have a Significant Impact in the World

A natural outcome of the previous goals forms the basis of our final one and an elemental rationale for undertaking this strategic plan: to have a significant impact in the world—locally, nationally, and globally.

We can accomplish this goal by focusing on translation of current research, knowledge, and capabilities to improve care delivery and health outcomes. Breakthrough discoveries must be coupled with the creation of systems for translating those findings to pioneering care for our community, the commonwealth, and the world. We must apply the expertise and resources of the Medical School and the clinical system in a coordinated fashion to improve the health and quality of life for the communities we serve. We must be the model for evidence-based medicine

and continue to produce the physicians and scientists to lead discoveries, their translation to care, and the creation of local and global delivery systems.

An impact can also be made through public service. However, a joint strategy for community and public service is needed to leverage the numerous public service activities and expertise of both organizations.

We can also make an impact in the world through a global strategy and linkages. We must work to establish a network of global partnerships that mutually benefits and enriches education, health professions training, and quality patient care for UMMS, UMass Memorial and our collaborators worldwide.



Recommendations

To have a significant impact in the world, our priorities are to:

- 1 establish community outreach initiatives designed to allow multilateral communications between the UMMS research community and the community at large. Such initiatives should inform the community of opportunities to participate in UMMS research and inform UMMS investigators of the research priorities of the community;
- 2 create a joint office for public service activities to:
 - a. create, maintain, and publish a living inventory of public service initiatives at UMMS and UMass Memorial;
 - b. effectively measure the impact of public service initiatives;
 - c. identify commonalities, gaps, and opportunities in public service initiatives;
 - d. facilitate the identification and implementation of a “marquee” initiative that UMMS and UMass Memorial will commit to addressing jointly; and
 - e. measure and report the results of the marquee initiative;
- 3 enhance collaboration with the other UMass campuses and other Worcester area colleges to further our goals and priorities;
- 4 create a provost-level leadership structure to align and enhance global health initiatives spanning the mission of education, research, clinical care, and service; and
- 5 develop global partnerships with institutions of higher learning in Europe, Asia, Africa, and elsewhere that may serve as platforms for our education, research, and service goals.

Strategic Measures

Evaluation Criteria

Feasibility

All initiatives must first demonstrate feasibility and sustainability over the long term.

Consistency with Vision

Initiatives most likely to contribute to our standing as an enterprise of national distinction should be preferred over others.

Transformational Impact

Priority should be given to those initiatives with the most potential to fundamentally and qualitatively change our understanding or approach to biomedical research or medical practice.

Community Impact

Initiatives that have a positive impact on community health and well-being in Worcester, Central Massachusetts, the Commonwealth of Massachusetts, or the world should be given priority.

Distinction

Priority should be given to those initiatives that build upon our individual organizations' distinctive strengths and attributes, which will set us apart from other academic health sciences centers.

Degree of Integration

Initiatives that involve substantial linkages across missions and/or unify interests among multiple constituencies should be given preference.

Health Care Delivery

- Measures of quality and safety (University HealthSystem Consortium rank and others)
- Growth in volume
- Patient satisfaction measures
- *U.S. News & World Report* hospital rank
- *U.S. News & World Report* department ranks

Workforce

- Incoming Medical College Admission Test (MCAT) scores
- United States Medical Licensing Examination (USMLE) pass rate
- United States Medical Licensing Examination (USMLE) scores
- Percent of graduates matching at first choice
- Success in primary care training (i.e., the number of our graduates who successfully match for primary care residencies)
- Recruitment and retention into primary care practice or practice in underserved populations
- Incoming Graduate Record Examination (GRE) scores (Graduate School of Nursing, Graduate School of Biomedical Sciences)
- Increase in recruitment and retention of women and underrepresented minorities (See Joint Diversity Strategy for key measures.)
- Workplace of Choice measures to be determined (Measures may include retention ratios, recruitment ratios, employee engagement and satisfaction measures and will be solidified at a later date through the work being completed with Human Resources as part of acting as a single enterprise.)

Learning Environment

- Graduation questionnaire (various elements)
- Number/duration of interprofessional experiences in curriculum

Translation of Discovery

- Amount and quality of basic, clinical, and translational research
- Institutional Review Board-approved protocols
- Investigational new drugs
- Invention disclosures, licenses, Material Transfer Agreements, patents issued
- Research funding
- Faculty recruitment and retention

High Performance Organization

- Operating margin (UMMS and UMass Memorial)
- Growth of net assets (UMMS and UMass Memorial)
- Faculty, senior leadership, and staff satisfaction
- Intellectual Property impact and revenue
- Endowment

Global Impact

- Impact of scholarship (i.e., the extent to which our research is used and cited by others)
- Number and total of revenue activity (and/or overall scientific output) associated with international research agreements
- Number of international academic exchange agreements and number of learners exchanged
- UMass Donahue Institute outreach and economic development and analysis (<http://www.donahue.umassp.edu/>)



University of Massachusetts
Medical School
55 Lake Avenue North
Worcester, MA 01655

www.umassmed.edu



UMass Memorial Health Care
One Biotech Park
365 Plantation Street
Worcester, MA 01605

www.umassmemorial.org