RESEARCH VISION

By 2016, the OHSU School of Medicine will be recognized globally for excellence in scientific discovery, collaboration and the rapid translation of new knowledge into practices that improve human health.

To achieve this vision we will:

- Nurture, support and invest in a scientific culture that rewards innovation and collaboration.
- Strengthen our research training infrastructure and create new education models and curricula that advance our scientific excellence.
- Develop strategic external interactions and partnerships.
- Increase awareness, understanding and support for OHSU biomedical research.

STRATEGIC INITIATIVES

1. Identify and invest in areas of research strength that make best use of School of Medicine resources to advance human health and well-being.

2. Advance School of Medicine capacity in translational research.

3. Promote research excellence through effective organizational systems and infrastructure.

4. Enhance training, career development and mentoring opportunities for the next generation of biomedical researchers.

5. Promote, nurture and support a professionally rewarding culture for researchers at OHSU.

6. Increase awareness, appreciation and understanding of the value of research at OHSU to both internal and external stakeholders and the public.
Dear Colleagues,

The external landscape facing academic medicine is changing rapidly, including evolving scientific and public policy priorities for research funding. Within this context, medical schools have new opportunities and new challenges associated with continuing to best meet our social responsibility to improve human health and well-being.

At the Research Roadmap Retreat in December 2010, I issued a charge to faculty to tap their insights, knowledge and innovation to develop a balanced and long-term strategy to continue to advance science and research at OHSU in the context of the evolving environment.

This Research Roadmap admirably meets this charge. It is a thoughtful and timely plan. I endorse this Research Roadmap and the six Strategic Initiatives it contains. Now, as we move into an implementation phase, we must continue to work together and hold ourselves mutually responsible for and accountable to these goals.

Some of the recommendations have already gained traction and are getting underway. Detailed implementation plans will be developed and initiated continuously over the next several years, and will include methods to measure success and progress.

The faculty-driven collaborative framework established by this planning process is a model for how we can work together to identify the best ways to meet our collective goals for excellence and maximum impact in our research mission.

I appreciate the hard work of everyone involved in this planning process and am grateful for your commitment to the School of Medicine and our missions.

Mark Richardson, M.D., M.Sc.B., M.B.A.
Dean, School of Medicine
PLANNING LEADERSHIP

The School of Medicine Research Roadmap is the result of a collaborative planning process that included all departments, centers and institutes in the School of Medicine and represented the input of our faculty. Six task force committees, led by twelve co-chairs, were charged with identifying consensus objectives and outcomes to support the realization of the six Strategic Initiatives that form the basis of the Research Roadmap. The resulting recommendations for the six Strategic Initiatives reflect the thoughtful work of the task force members in collaboration with Dean Richardson.

As co-chairs of the OHSU School of Medicine Research Roadmap task force committees, we acknowledge the importance of creating a participatory and ongoing process to achieve “excellence in scientific discovery, collaboration, and the rapid translation of new knowledge into practices that improve human health.” We, together with the Associate Deans for Basic Science and Clinical Research, support and endorse the recommendations herein.

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EXECUTIVE SUMMARY

RESEARCH ROADMAP

Over the past two decades, OHSU has experienced tremendous growth in research. In 1990, total grant awards to OHSU were $43 million. In 2011, this figure had grown to about $325 million. In parallel, OHSU experienced a rapid growth in research programs, initiatives and discoveries, along with an increase in faculty, staff and graduate studies programs. Much of this growth occurred in the School of Medicine. Today, the School of Medicine departments, centers and institutes collectively receive nearly two-thirds of all grants awarded to OHSU.

The School of Medicine Research Roadmap is intended to guide the future scientific focus and strategic direction of our research mission. The Research Roadmap identifies and takes into consideration internal opportunities as well as external factors that influence research activities and funding in the United States, now and likely for the foreseeable future.

There is a compelling need to translate the rapid explosion of basic science discoveries into therapeutic treatments and cures for a wide range of diseases. Growing efforts to improve health care quality and reduce costs provide critical emphasis on comparative effectiveness research, population studies and related topics. Further, future scientific and funding challenges, as well as opportunities, require new models for collaboration and investment to ensure strong technological, intellectual and educational foundations essential to continue to nurture innovation and discovery.

The Research Roadmap captures faculty perspectives on our collective future, and includes ways to foster discovery and organize and administer research strategically within the School of Medicine. The Research Roadmap is comprised of six Strategic Initiatives and related recommendations that, taken together, will enhance and sustain a vibrant, collegial and collaborative professional research environment dedicated to excellence.

The Research Roadmap is the result of a planning process launched in the fall of 2010, which engaged research faculty, leadership and administration in discussions about strategies that would support best use of resources and opportunities to impact human health. This process was led by the OHSU Collaborative Research Leadership Group (CRLG). Comprised of research leadership across OHSU, the CRLG was formed in 2009 to share information about different areas of growth and development and emphasis in the research mission.
A Research Roadmap retreat, held December 1 and 2, 2010, initiated the planning process with more than 60 retreat participants representing a broad range of research areas and viewpoints. The goal was to explore and develop a strategic path toward increased research success and impact over the next decade.

The group identified regional, national and global research trends and needs, and also considered the future direction of federal and other funding sources. The group reviewed the current state of research and its administration at OHSU, as well as our readiness to engage proactively with the evolving external landscape to leverage the resources of our strong, nationally prominent research mission.

The group developed six over-arching Strategic Initiatives, which collectively provided the framework for the development of specific research goals and recommendations for the School of Medicine. A subsequent year-long process, which included input from six faculty task forces and an all-faculty survey, resulted in the refinement of the goals and outcomes associated with the six Strategic Initiatives. During this process, a Research Vision statement was also developed.

The six Strategic Initiatives are:

1. Identify and invest in areas of research strength that make best use of School of Medicine resources to advance human health and well-being.
2. Advance School of Medicine capacity in translational research.
3. Promote research excellence through effective organizational systems and infrastructure.
4. Enhance training, career development and mentoring opportunities for the next generation of biomedical researchers.
5. Promote, nurture and support a professionally rewarding culture for researchers at OHSU.
6. Increase awareness, appreciation and understanding of the value of research at OHSU to both internal and external stakeholders and the public.

The Research Roadmap initiatives apply to the departments, centers, institutes and other units within the School of Medicine. Given that an overarching School of Medicine goal is to support collaboration at all levels and across all missions, the planning process itself was highly inclusive. Many of the resulting recommendations included in the Research Roadmap are intended to benefit the broader OHSU research community and mission.

With the completion of the Research Roadmap, the planning process has now entered a new phase focused on implementation, referred to as the “blueprint.” This approach will involve an annual process to develop implementation plans, funding strategies and an accountability framework for each Strategic Initiative. Faculty members and research staff will continue to inform the blueprint phase, using the Research Roadmap as a guide as to achieve specific goals for the next five years.
GUIDING FRAMEWORK

Outlined in this section of the Research Roadmap are the six Strategic Initiatives that are aimed specifically at the actualization of the School of Medicine’s Research Vision.

Development of these is the outcome of numerous facilitated input activities and group deliberations, including an initial Research Roadmap planning retreat, a faculty survey, steering committee and task force deliberations, and regular reviews by the Collaborative Research Leadership Group. Further information on the planning process and methods is contained in a separate Research Roadmap Appendix.

Collectively, the strategic initiatives provide a guiding framework for the School of Medicine to address future decisions and investments in research over the next five years. For each strategic initiative a “blueprint” will be developed to outline a specific plan for addressing the strategic initiative, including ongoing strategies and tactics grounded by measurable outcomes. This first blueprint will cover the first 18 months, and will continue to be guided and informed by the participation of the Strategic Initiative task forces, the Collaborative Research Leadership Group and others with special expertise in various aspects of research support and development.
Identify and invest in areas of research strength that make best use of School of Medicine resources to advance human health and well-being.

Investigations into the complex scientific questions of our era depend on developing new areas of expertise, and on supporting collaborative and multidisciplinary models of inquiry. In parallel, novel funding sources and partnerships need to be identified and cultivated to realize and sustain research success in an era in which traditional funding sources are expected to shift and/or be constrained. The continued success of the School of Medicine is linked to the development of systems that support the strategic and collaborative allocation of School of Medicine resources in ways that maximize our collective impact on human health, while enhancing the vibrant intellectual and technological foundation essential to ensure future discovery.

Strategic Initiative #1 will create a framework that is objective, facile and driven by metrics to facilitate strategic allocation of School of Medicine resources. As part of this initiative, we will undertake the development and transparent application of data, methods and systems to define and identify distinctive and emergent research areas within the School of Medicine. A key aspect of Strategic Initiative #1 is the establishment of the School of Medicine Council for Research Opportunities and Strategies (CROS). CROS will develop and apply principles for resource allocation to and investment in distinctive and emergent research areas.

CROS will be comprised of leaders and faculty who represent the breadth of the School of Medicine’s research mission, and will include representatives that can help drive collaboration across all missions. CROS membership will be determined via a mix of permanent positions, appointments by the Dean of the School of Medicine and positions elected by a vote of the School of Medicine faculty.
STRATEGIES

1. **Identify areas of emergent and distinctive research.**
   a. Develop an ongoing data-driven process to define distinctive and emergent areas of research in the School of Medicine.
   b. Establish a Council for Research Opportunities and Strategies (CROS) to evaluate and prioritize research initiatives for resource allocation.
   c. Create multidisciplinary interest groups aligned with each distinctive research theme or area of emergent opportunity.

2. **Support areas of emergent and distinctive research.**
   a. Expand the capacity for seed funding.
   b. Bolster School of Medicine and OHSU Foundation strategies to cultivate interest by local foundations in the Research Roadmap strategic priorities.
   c. Evaluate organization and principles of the School of Medicine Research Committee to strengthen membership and ensure fulfillment of strategic research priorities.
   d. Conduct a needs assessment related to institutional support for grant applications and implement recommendations.
   e. Create a strategic plan for computational biology that incorporates current and future needs for research.

3. **Enhance School of Medicine infrastructure to directly support faculty success for funding beyond current levels from all relevant funding sources.**
   a. Promote existing resources to identify collaborators and form partnerships.
   b. Perform a needs assessment of resources for automated, targeted funding searches and increase such resources if needed.

4. **Develop strategic research collaborations between OHSU and industry partners.**
We are in an exceptionally prolific and historic period of discovery with new knowledge emerging from the full spectrum of research including basic and translational sciences, technology development and systematic comparative evidence-based analyses. The promise of genetics and molecularly-targeted medicine, as well as the potential to apply evidence to transform clinical practice, among other opportunities, has never been greater. Such promise, however, requires emphasizing, developing and sustaining the specific multi-disciplinary faculty expertise and institutional capacity needed to rapidly apply science and new knowledge into clinical practice, as well as to provide relevant information back to researchers from the clinical realm in ways that direct future initiatives.

Strategic Initiative #2 will expand and accelerate our capacity in translational research and allow us to become global leaders in the rapid application of science and knowledge to improve human health and well-being. The primary strategies will support and invest in faculty expertise, programs, technology, partnerships and educational models to enable translational success. Implementation of this initiative will simultaneously identify and remove existing institutional barriers to translational success, and foster innovative partnerships with clinical entities and industry.
STRATEGIC INITIATIVE #2

STRATEGIES

1. **Identify and optimize new funding streams (e.g., pharma, non-NIH government, insurance, DOD, foundations) to advance translational capacity.**
   
a. Evaluate current OHSU resources in context with known NIH translational pipelines.

b. Explore new funding streams, and potential partners (NIH, DOD, insurance companies, pharmaceutical companies, other academic institutions) for investment in OHSU’s focus areas in translational research.

2. **Foster faculty engagement and facilitate proficiency in translational research.**
   
a. Mentor faculty in translational research.

b. Evaluate current educational programs with a focus on translational medicine and identify areas for improvement or expansion.

c. Define and strengthen criteria in promotion and tenure considerations that recognize and value efforts by faculty to advance collaborative translational research and team science.

d. Increase awareness of the nature and breadth of translational research.

3. **Increase awareness among faculty and potential external collaborators of resources available to support translational research.**
   
a. Identify gaps and barriers for translational research across the entire translational spectrum.

b. Promote and emphasize maximum utilization of Oregon Clinical & Translational Institute (OCTRI) resources to support translational research.

4. **Enhance collaboration with partners across the translational spectrum.**
   
a. Explore and select a new operational model for efficient interactions among translational stakeholders, including pharmaceutical and insurance companies, and government agencies such as DARPA, AMCs, etc.

b. Align School of Medicine institutional and individual (Principal Investigator) financial incentives for translational research success.

c. Evaluate institutional barriers that may impede collaborations with external partners.
Administrative, management and research support systems have the potential to better facilitate the success of researchers with the strategic application of advanced information technology and tools. Similarly, regulatory requirements, which continue to grow, can be managed more effectively on behalf of investigators with coordinated planning, cultivation of staff expertise, and strategic deployment of appropriate database and tracking tools. To help realize the vision and goals of the Research Roadmap, we will centralize and leverage the power of information technology and expertise to improve overall efficiency and impact in ways that support faculty productivity and innovation at all levels of our research mission.

Strategic Initiative #3 will define, implement and continuously improve the organizational, administrative and technical infrastructure and systems that enable success across the spectrum of research administration—from idea conception to grant submission to experimental design and execution to technology transfer, and beyond.

Promote research excellence through effective organizational systems and infrastructure.
STRATEGIC INITIATIVE #3

STRATEGIES

1. Develop and fund a dedicated process improvement program to facilitate research applications.
   a. Utilize the process improvement program to identify the key infrastructure and system requirements that are necessary to successfully execute applications.
   b. Coordinate and implement process improvement efforts in the School of Medicine with similar efforts underway across OHSU.

2. Define, review and implement balanced standards in all areas of research regulatory compliance.
   a. Ensure faculty input in the design and implementation of compliance requirements and policy consistent with methods established by existing oversight boards.

3. Continually evaluate and invest in centralized information technology and related tools that function seamlessly and efficiently across all units.
   a. Identify the unmet needs for information technology in OHSU’s research community.
   b. Develop institutional plans for biostatistical resource and bioinformatics support.

4. Identify and address barriers to research collaborations between the School of Medicine and the Portland Veterans Affairs Medical Center.
   a. Utilize the existing Portland Veterans Affairs Medical Center (PVAMC) and School of Medicine oversight committee to identify barriers to research collaborations.
The sustained excellence of biomedical research and the continued collective ability of our research community to improve human health depend on the quality of our educational programs and mentoring capacity. There is a pressing call for curriculum transformation to integrate education across disciplines in creative ways that meet the needs of basic, translational and clinical research.

Strategic Initiative #4 will enhance and sustain an educational platform and curricula that will attract, train and retain outstanding graduate students, post doctoral fellows and early career development faculty. This initiative will also ensure that our educational models and curricula align with our goals for excellence and diversity.
STRATEGIC INITIATIVE #4

STRATEGIES

1. Attract and support graduate trainees consistent with the Research Roadmap vision for excellence and diversity.
   a. Define attributes and specify academic qualifications of next-generation trainees that would fulfill the vision of the Research Roadmap.
   b. Identify new sources of internal and external funding for graduate students and postdoctoral fellows.
   c. Develop a school-wide strategic plan for recruitment of under-represented minority students.

2. Oversee the graduate studies education mission in the Office of the Dean to ensure an organizational structure that supports uniform quality/consistency in a comprehensive framework and conserves resources.
   a. Develop appropriate dedicated leadership and staff support for the Graduate Studies Office.

3. Enhance graduate and postgraduate training and career development to support excellence and state-of-the-art training in the research mission.
   a. Develop an institutional plan to meet educational and career development needs of all research trainees.
   b. Emphasize curriculum content in ethics, translation, scientific education and entrepreneurial focus.
   c. Capitalize on existing Clinical Scientist K Program and OCTRI resources and expertise to develop internal standards for the management of K-Awards across OHSU units. Where possible, utilize existing OCTRI standards and practices to guide management of K-awards.
Research excellence and productivity are fundamentally linked to professional satisfaction, meaningful opportunities for success, recognition of achievement and attainment of individual work-life balance. This professional culture will help ensure that we consistently recruit, retain and reward a highly productive, collaborative and innovative faculty.

Strategic Initiative #5 will enhance and expand our professional culture to reward and recognize researchers for their achievements while providing an environment that facilitates the connectivity essential for innovation, collaboration and success. This initiative emphasizes the inherent and essential value in supporting and rewarding a culture that performs research, teaches and mentors, all within the context of well-balanced work-life expectations.
1. **Reward scientific achievement, collaborative research accomplishment, and research mentoring and teaching.**
   
   a. Create a program that promotes, recognizes and rewards excellence in scientific achievement, collaboration, mentorship and teaching.

2. **Promote strong, supportive, and effective research leadership through all organizational levels of the School of Medicine.**
   
   a. Implement a systematic approach to research leadership development using both internal and external capabilities.
   
   b. Evaluate School of Medicine leadership for effectiveness in advancing the research mission.

3. **Create and implement a formal mentoring program for research faculty.**

4. **Advocate for stronger OHSU programs that support and deliver professional development to both faculty and staff who are vital to the success of the research mission.**
   
   a. Work with OHSU leadership to find resources that support work-life balance.
   
   b. Ensure that faculty, staff and students have access to and utilize preventive health, primary care, mental health care and specialty health services when needed.

5. **Improve opportunities for socialization and connection within and across departments and institutes.**
   
   a. Provide avenues for increased connectivity, collaboration and collegiality among all research personnel.
Increase awareness, appreciation and understanding of the value of research at OHSU to both internal and external stakeholders and the public.

Effective communication of our research excellence and breadth will increase local, national and global recognition. Enhanced recognition will help sustain and advance our scientific and funding goals. In parallel, increasing internal awareness of distinctive and emergent research areas, research initiatives, expertise and priorities between departments and among the faculty as well as our research leaders, will help meet our goals for discovery, innovation and collaboration.

Strategic Initiative #6 will create and execute a coordinated research communications plan that places specific emphasis on the areas, goals and initiatives of the Research Roadmap. This initiative identifies critical functions for faculty in the ongoing dissemination of relevant information about the importance of research to key audiences. An outcome of Strategic Initiative #6 will be the establishment of the Research Communications Committee (RCC) to direct and advise on all aspects of research communications in the School of Medicine. The RCC will be comprised of research leaders and faculty, working together with OHSU communications, community relations and other experts across OHSU.
STRATEGIC INITIATIVE #6

STRATEGIES

1. **Create and charge a Research Communications Committee (RCC) comprised of communicators and faculty to direct/advise on research communications and serve in a permanent advisory capacity for School of Medicine research communications.**

2. **Enhance internal understanding of and appreciation for the depth and breadth of research within the School of Medicine.**
   a. Support internal communications tools that describe the landscape of research and provide regular updates about research for investigators, administrators and leadership.

3. **Actively partner with the OHSU Foundation to communicate research priorities and funding opportunities.**
   a. Educate faculty and communications constituents about the OHSU Foundation’s current fundraising focus and develop tactics for additional partnering.
   b. Demonstrate impact of philanthropy to donors through faculty accountability and transparency.
   c. Create and continually update a research portfolio of distinctive and emergent research competencies.

4. **Support community awareness and engagement with research.**
   a. Promote research areas in alignment with Research Roadmap goals.
   b. Identify and leverage existing community engagement efforts at OHSU.
   c. Identify community and political entities and networks with which to develop ongoing relationships; seek opportunities to engage with these entities.

5. **Provide a strategic framework to increase the national presence of OHSU research.**
   a. Promote research nationally in alignment with the Research Roadmap goals.