School of Medicine  The Plan for Excellence

A collaborative effort to advance human health
Our Mission

Washington University School of Medicine will lead in advancing human health through outstanding clinical care, innovative research and the education of tomorrow’s leaders in biomedicine.

Our Vision

In leading the advancement of human health, Washington University School of Medicine will:

- Cultivate excellence, collegiality and diversity
- Attract the most talented people and enable their development
- Lead the evolution of change in biomedicine
- Enhance our intellectual and technological environment to foster exceptionally creative science and education
- Develop and maintain excellent clinical programs to provide outstanding care
- Observe the highest standards of ethics and integrity
- Apply advances in science and medicine to the betterment of humanity
Executive Summary

Washington University School of Medicine is one of the few institutions anywhere with the deep experience, focused vision and combined intellect required to do what can and must be done to advance human health.

For more than 100 years, our School has been a world leader in biomedicine. To continue shaping the future of medicine into the next century, it is imperative that we continue to invest and evolve. Biomedical research, education and clinical care are increasingly team-based, collaborative and interdependent endeavors. Our future success depends largely on how well we can foster collaboration, not just within these worlds, but among them. At the same time, societal pressures and our own expectations dictate that we more efficiently translate research discoveries into medical solutions, not just for the individual, but across populations.

To meet these challenges, we must gather resources, make broad changes to integrate our missions, and strategically focus our efforts. Done successfully, we will not merely excel, but develop approaches to teaching, research and patient care that will serve as models for the world.

We have prepared this plan as a guide for meeting our charge. Specifically, we will:

For Research
- Create strategic research initiatives to address key health problems and achieve the greatest impact.
- Provide the technology to support interdisciplinary translational research.

For Education
- Provide interdisciplinary and customized learning opportunities.
- Foster innovation, employ new technology, reward excellent teaching and reduce student indebtedness.

For Clinical Care
- Strategically expand the clinical practice.
- Improve patient care, safety and convenience.

For Community Health and Population Science
- Create and lead research and training programs in population health science.
- Expand community-based and international partnerships to strengthen our impact on the health of communities and populations.

And universally
- Dissolve barriers among basic and clinical research, education and the delivery of care.
- Put in place the leadership, faculty and infrastructure to support these integrated, multidisciplinary efforts.
Washington University School of Medicine has achieved international prominence in its three missions of teaching, research and clinical care. Our success stems from many factors: exceptional students, outstanding department heads and faculty, a uniquely collaborative culture, superior facilities, the support of the University, superlative hospital partners and strong financial resources. In addition, throughout our history, we have executed bold changes involving significant investments, with highly successful results.

As we worked to develop a bold and exciting 10-year vision, we embraced the challenge put forth by our National Council: to build on past success rather than to rest on it, to lead change rather than simply respond to it, and to keep as our guiding beacon the overall mission of advancing human health. To construct the Plan for Excellence, we organized planning teams around each of our three existing missions — Research, Education and Clinical Care — and added a fourth team to address a new area: Community Health and Population Science.

BOLD CHANGES, BIG PAYOFFS

- In 1973, the creation of the Division of Biology and Biomedical Sciences resulted in a multidisciplinary training model for PhD students that is now followed by all top institutions.
- The Center for Advanced Medicine provided a dramatic upgrade of our clinical practice facilities and is paving the way for more cross-disciplinary care.
- The Farrell Learning and Teaching Center and the Howard and Joyce Wood Simulation Center are national models for educational facilities and methods.
- The BioMed 21 initiative anticipated dramatic opportunities for health advances that result from sequencing the human genome.
- Today, the Division of Clinical Sciences envisioned in this initiative has a $50 million CTSA grant to help facilitate growth in translational research.
- The Center for Clinical Imaging also is a reality and is a clinical research facility unique in the nation.
- The BJC Institute of Health at Washington University, currently under construction, will house several multidisciplinary research centers, all designed to speed scientific discovery and rapidly apply breakthroughs to patient care.
The planning process uncovered several overarching themes that cross all of our missions and are addressed throughout the Plan for Excellence.

**CHALLENGES AND THREATS**

**Attracting top faculty and students**
Recruitment of the best and brightest will require that we remain competitive in facilities, technology, salaries, scholarships and other resources, while offering distinctive curricula, research opportunities and clinical programs to distinguish ourselves from other top institutions. In our plan, we offer a framework for these investments.

**Competitor investments and growth**
As we seek to improve and invest, our peer institutions do so as well.

**RESEARCH:** All of the top National Institutes of Health (NIH)-funded medical schools are making significant investments in translational and/or basic research in the form of buildings, faculty and programs.

**EDUCATION:** Competition is escalating for the very best students, with some institutions making substantial investments to fund scholarships, decrease graduates’ debt loads and increase support of teaching faculty and educational programs. In graduate training, providing equitable stipends and supporting evolving program areas is increasingly important.

**CLINICAL CARE:** Clinical programs face strong competition regionally from sophisticated community hospitals and their affiliated physicians.

**Dependence on government funding**
We expect to remain dependent on government revenue for our research and clinical missions. In 2008, over 80 percent of our research funding came from the NIH; this is higher than most of our peer institutions, potentially putting us at greater risk if NIH funding continues its flat trend. Similarly, Medicare and Medicaid account for 40 percent of our clinical revenue, but reimbursement from these payors fails to cover our costs. To mitigate these risks, we have sought ways to diversify our research funding and to pursue clinical opportunities that move us toward better reimbursement and financial stability.
TRENDS AND OPPORTUNITIES

From bench to bedside — and beyond

As the capabilities of biomedical research exponentially rise and competition for research dollars stiffens, there is increasing pressure to shorten the journey from discovery to cure. One resulting trend is toward translational research — lines of investigation conceived and conducted with the goal of quickly translating discoveries into methods of diagnosis and therapy. In addition, there is a growing realization that making a significant impact on human health requires intervention not just at the individual level but across populations. Both of these trends have broad implications for all of our missions. The recently acquired CTSA grant and the creation of the Institute for Public Health provide models for addressing these trends, and the Plan for Excellence builds upon them.

The explosion of knowledge and technology

Across all of our missions, changing technology is opening up new challenges and possibilities. A few examples include the sequencing of the human genome and understanding its biological implications, the use of simulation technology for medical education and evaluation, and the ability to analyze large patient databases to understand and improve the health of populations. Taking advantage of these opportunities requires sophisticated tools and expertise. The School already has made significant investments in these areas; the Plan for Excellence outlines additional steps.

Multidisciplinary approach

Increasingly, research, education and clinical care are team-based, multidisciplinary endeavors. Faculty and trainees must cross lines of departments, schools and disciplines to accomplish the goals of the respective missions. Although multidisciplinary collaboration already is a hallmark of our institution, the Plan for Excellence makes way for new opportunities.

Integration of research, education and clinical practice

The School of Medicine recognizes and celebrates the fact that our three missions of research, education and clinical care are tightly interwoven and interdependent. We cannot truly excel in any single mission without excelling in all three: The School’s robust basic science fuels clinical solutions, and the clinical mission directs research priorities. Our outstanding research and clinical programs are ideal training grounds for the next generation. And our trainees are key contributors to our research and clinical missions, infusing all our endeavors with raw talent and energy. The Plan for Excellence addresses the critical need to continue integrating these missions seamlessly and effectively.
RESEARCH
Framing Our Future

Washington University School of Medicine has demonstrated unwavering commitment to the discovery of knowledge and the advancement of biomedical research. Our overarching vision is to use our resources as a top-tier research institution to make significant and lasting contributions to advancing human health.

By exploring fundamental biological functions through basic research, we gain the intricate understanding of both health and disease that we must possess to move health care forward. Basic science, one of WUSM’s current and historic strengths, must remain a priority for us to lead the way to new disease-related discoveries.

To meet our imperative of improving human health, we must transform the way we conduct research; namely, we must pursue knowledge in a more focused and integrated fashion to speed translation of basic science discoveries into clinical solutions. We have taken the first steps toward this goal with creation of The BioMed 21 initiative and construction of the BJC Institute of Health at Washington University. The Research Plan further extends this integration process.

Transforming Our Research Mission: First Steps

The BioMed 21 initiative and construction of the BJC Institute of Health at Washington University are the School’s first major steps toward fostering a more integrated, focused approach to research.

**BioMed 21**

- A major research initiative announced in 2003 that established the imperative of focusing efforts on multidisciplinary, translational research.
- Created an administrative structure to foster collaboration.
- Established five Interdisciplinary Research Centers: Center for Cancer Genomics, Center for the Investigation of Membrane Excitability Disorders, Center for Women’s Infectious Disease Research, Hope Center Program on Protein Folding and Neurodegeneration, Center for Interdisciplinary Studies of Diabetic Cardiovascular Disease.

**The BJC Institute of Health at Washington University**

- Currently under construction, will provide 240,000 square feet of laboratory space.
- Will house two academic departments and BioMed 21’s Interdisciplinary Research Centers.
TRENDS AND OPPORTUNITIES

Interdisciplinary collaboration

Biomedical research is increasingly interdisciplinary and collaborative. Solving today's research questions often requires the combined expertise and perspectives of many different fields, including those outside the traditional biomedicine disciplines. We must remove any barriers in order to facilitate this free flow of information and ideas among basic, clinical and population sciences, and between the School of Medicine and Danforth Campus, to further our position as a leading biomedical research institution.

Bench to bedside and back

Key scientific discoveries are not confined to test tubes and laboratories. Sophisticated tools, such as imaging and genetic sequencing, are pushing discovery research into our clinics, hospitals and communities; the flow of information therefore must be multidirectional with strong dialogue among the basic, clinical and population sciences — from "bench to bedside and back." As one of the world's leading biomedical research institutions with the nation's third-largest academic clinical practice and a close relationship with one of the nation's largest hospital systems, BJC HealthCare, we are well positioned to lead the way in this area.

Funding levels and diversification

Historically, the School of Medicine has been one of the top-funded research enterprises in the country — achieving a top-five position in National Institutes of Health (NIH) funding year after year, allowing us to continue to attract the best faculty and students. However, other academic centers continue to expand and invest in research, putting our position at risk. At the same time, NIH funding levels are variable. We must continue to build on our existing research strengths not only to ensure that we lead in NIH funding, but also to position ourselves to diversify our funding sources to include industry, foundations and other private entities.

Multidisciplinary training

Graduate students and postdoctoral researchers are the lifeblood of the academic research pipeline and the future leaders in academia, industry and government. Expanding research opportunities in emerging disciplines will require introduction of academic pathways and programs at the leading edge of multidisciplinary research domains. New research initiatives must be well coordinated with multidisciplinary graduate training programs and medical education, while grounded in the scientific method.
Biomedical ethics

Scientific progress inevitably leads to ethical issues with which society must come to terms. These issues are especially important in research involving human subjects. We are cognizant of the potential ethical issues that will arise from development of new technologies and expansion of associated research initiatives. We must strengthen our bioethical knowledge base to ensure that science and technology are applied appropriately and that research is conducted ethically and responsibly.

Focus on society’s major health problems

A handful of key disease areas represent society’s most important health challenges: cardiovascular and metabolic diseases, cancer, neurosciences, infectious diseases, and women’s and children’s health. The School already has strong research in these areas; they account for over half of our total research funding. Although we must continue exploring all areas of biomedicine, focusing major effort and resources on these key priority areas will allow us to achieve the maximum impact on advancing human health.

Priority Disease Areas

Cardiovascular and Metabolic Diseases
- America’s No. 1 killer, claiming 41.4% of all U.S. deaths.
- 18.5% of U.S. adults age 65 to 76 have diabetes.

Cancer
- The nation’s second-leading cause of death.
- Claims 23.1% of all U.S. deaths, 1 in 8 worldwide.

Neurosciences
- Stroke is America’s No. 3 killer.
- Parkinson’s disease affects 1.7 million Americans.
- 5 million Americans have Alzheimer’s disease.

Infectious Diseases
- Infections account for 30% of all childhood deaths.
- More than 30 newly recognized infectious diseases and syndromes have emerged in the last two decades.

Women’s and Children’s Health
- Cervical cancer is the third-most common malignancy in women worldwide.
- 50% of premature infants face neurobehavioral challenges throughout life.
Technology as a platform for discovery
Rapid advances in biomedical research are increasingly driven by the development of new technologies. We must place the best cross-disciplinary research technology at our investigators’ fingertips. Strategic investment in this area will transform our ability to effectively conduct research.

Priority Technology Areas

**Biomedical Informatics:** The ability to gather, store, integrate, analyze and interpret staggering quantities of diverse biomedical data presents tremendous challenges and exciting opportunities.

**Regenerative and Developmental Biology:** Stem cells allow us to understand and re-create key steps in cell regeneration and cell fate determination. They have the potential to revolutionize cell-based therapies, tissue regeneration and transplantation medicine.

**Imaging:** High-resolution imaging methods will continue to fuel translational research. Several of the methods used today were developed at Washington University. Future advances in cellular and biological imaging will provide critical information for solving fundamental scientific questions.

**Genetic and Molecular Phenotyping:** Washington University was one of three institutions responsible for sequencing the human genome. The ability to study genomes and identify new genes and proteins relevant to disease will revolutionize our ability to diagnose disease and develop personalized treatments.

**Chemical Biology:** Drug-like small-molecule compounds are invaluable research tools and have exciting potential as therapeutic agents.

**Clinical and Translational Research:** Washington University, in partnership with Barnes-Jewish Hospital and St. Louis Children’s Hospital, operates one of the nation’s largest and finest clinical outpatient and hospital-based practices. This enterprise presents outstanding opportunities for health outcomes research to inform our basic, clinical and translational research.
An integrated approach to research

Our entire approach to research must be integrated. Establishing a strong technology infrastructure to support research in high-priority areas that advance human health will build effective, seamless interactions that allow research discovery to flourish. Close working relationships among the Schools of Medicine, Engineering and Arts & Sciences, as well as our hospital partners, will be key.
Enhancing Excellence

To sustain excellence, our existing research strengths must be brought to bear on the most important health challenges, ensuring that our strategic investments will have the maximum impact on advancing human health.

We have identified areas in which we are compelled to participate, but in which our research infrastructure is not fully developed. Strategic investments are needed immediately to maintain a competitive position. Following on the School of Medicine’s recent BioMed 21 initiative, which strengthens three research tools (genetics, imaging and clinical/translational research), we propose the following key goals.
GOAL 1:
Focus our research on society’s dominant health problems to advance human health.

Although Washington University will continue to pursue excellence in all of its research, we will focus major attention on Priority Disease Areas to achieve the maximum impact on improving human health.

TACTIC:
Establish Multidisciplinary Disease-Based Research Initiatives focused on our Priority Disease Areas:

**Cardiovascular and Metabolic Diseases**
Delineate fundamental cardiovascular and metabolic disease mechanisms, in particular the role of genes and environment. Revolutionize the prevention, diagnosis and treatment of cardiovascular disease, diabetes and obesity.

**Cancer**
Explain the molecular basis of cancer and convert this knowledge into methods for personalized diagnosis, treatment and prevention.

**Neurosciences**
Be the world leader in developing preventions and treatment for nervous-system disorders, repairing nervous-system injury, and in understanding and enhancing learning and memory.

**Infectious Diseases**
Understand the interface between microbial organisms and their human hosts to better predict emerging infectious diseases. Identify biomarkers of health and disease. Develop therapeutics and prophylactics for mitigating infectious diseases.

**Women’s and Children’s Health**
Optimize pregnancy outcomes, neurodevelopment in children, and health of women throughout their life spans.
GOAL 2:  
Provide world-class research technology infrastructure.

TACTIC:  
Establish Technology-Based Research Platforms to support the Multidisciplinary Disease-Based Research Initiatives.

These Technology-Based Research Platforms will foster continued discovery and advancement in their respective disciplines, as well as bring critical technical and analytical expertise to research colleagues across the School.

**Biomedical Informatics**
- Expand computing expertise and infrastructure to meet the growing demand for large-scale and complex analyses of biomedical data.
- Promote informatics as a research discipline, including faculty growth and training programs.

**Regenerative and Developmental Biology**
Advance biological understanding, research applications, and therapeutic uses of stem cells and other genetically programmed cells by establishing core expertise in this area.

**Imaging**
Foster development of new imaging methods from the scale of molecules to whole animals with capability for real-time imaging of biological processes.

**Genetic and Molecular Phenotyping**
- Capture human biospecimens in a comprehensive and well-annotated repository.
- Interrogate biospecimens using leading-edge methods of DNA sequence analysis, proteomics and genomics as a discovery engine for functional genomics.

**Chemical Biology**
Enhance research and training opportunities in basic pharmacology by creating a program in experimental therapeutics that encompasses screening, synthetic medicinal chemistry and computational design of ligands for research, and potentially as therapeutic agents.

**Clinical and Translational Research**
- Establish new collaborations among clinical and basic scientists to leverage our strength in basic science to benefit the health of patients and populations.
- Create training programs that prepare the next generation of scientists to conduct multidisciplinary research that balances basic scientific discovery with application of knowledge to directed goals.
GOAL 3:
Prepare the next generation of scientists by nurturing the development of creative intellect.

TACTIC:
Develop new training pathways and programs in emerging areas of research.

As further outlined in the Education section that follows, an Integrated Human Biology Initiative is proposed to enhance the interdisciplinary breadth and depth of research training, provide cutting-edge training opportunities, and capitalize on unprecedented opportunities for discovery and accelerated progress in the life sciences.

Programs
- Imaging Sciences
- Biomedical Informatics (computational biology, clinical informatics, public-health informatics)
- Translational Medicine and Clinical Investigation
- Epidemiology and Biostatistics

Pathways
- Systems Biology
- Environmental Sciences
- Cardiovascular & Metabolic Diseases
- Cell to Society
- Clinical Relevance of Basic Research (in multiple medical areas)

GOAL 4:
Enhance bioethical knowledge to ensure the ethical and responsible conduct of research.

TACTICS:
- Engage the Center for the Study of Ethics and Human Values to ensure appropriate use of new technologies.
- Apply the highest ethical standards in research involving human subjects to ensure patient safety, prevent deception, assure voluntary participation and protect confidentiality and privacy.
Framing Our Future

Building upon past successes, Washington University School of Medicine will continue to lead in education by preparing graduates to advance human health as future leaders in health care, including academic medicine.

To fulfill our vision, the School of Medicine will recruit and train outstanding individuals to prepare them to be:

- Compassionate leaders
- Ethical advocates
- Critical thinkers
- Life-long learners

Our graduates will advance science, the practice of medicine, and the delivery of health care to improve the health and well-being of individuals and their communities.

TRENDS AND OPPORTUNITIES

To a large extent, our future will be shaped by challenges in the following key areas:

Innovative curriculum

The knowledge base for clinical practice and scientific discovery is growing dramatically, continually changing and becoming vastly more complex. To continue to attract the best students and trainees and remain competitive with peer institutions, the School of Medicine must adopt a mentality of continuous quality improvement to offer innovative, integrated curricula.

Signature programs

The elite students we seek demand opportunities to fully explore their own areas of interest. To attract the best students, our curricula must offer signature programs — opportunities for specialized career exploration and enrichment — that are more integrated University-wide.
Training leaders in biomedical research

Our scientists are on the verge of gaining an in-depth understanding of the basic mechanisms underlying many diseases. And, as referenced in the Research and Clinical sections of the Plan for Excellence, biomedical research and clinical medicine are both increasingly interdisciplinary and collaborative. The worlds of bench and bedside continue to converge as we endeavor to shorten the journey from discovery to cure. Given this environment, we must:

- Train clinically and research-oriented students to understand the scientific basis of medicine and appreciate the central role of biomedical research in advancing human health.
- Prepare graduates who excel at applying the latest research approaches to address our biggest health problems.
- Capitalize on collaborative opportunities among the Schools of Medicine, Engineering and Applied Sciences, and Arts & Sciences.

Faculty mentors

In addition to the knowledge needed for successful careers as scientists, physicians and health care providers, future graduates need skills in information synthesis, problem solving, critical thinking, leadership, interpersonal communication, team-based management, professionalism and compassionate care. Skills in these areas are best learned through direct interaction with experienced faculty. The School must identify faculty mentors for students and trainees, provide them with time for teaching and mentoring, and reward them appropriately for their efforts.

Achieving diversity

Research continually reveals that disease development and progression varies among populations. Our future scientific and clinical workforce must reflect the gender, racial and ethnic diversity of our world to help ensure that discovery is explored and translated to meet the health needs of all populations. The School will need to ensure broad access to its educational programs to remain competitive for the best students.
New technology

As technology rapidly evolves, the School must embrace it as a crucial component of an innovative, flexible and learner-centered curriculum and commit to using it appropriately. Technology, tools, staff support, faculty time, training and expertise from many areas are needed. Furthermore, students must understand how to appropriately use technology and information and learn to balance its use with the caring and compassionate aspects of their profession.

Promoting the art and scholarship of teaching

To provide an innovative curriculum and distinguish ourselves from competitors, the School must include educational scholarship as part of its research mission. Just as the School occupies a leadership role in biomedical research, it also must become adept at developing new methods for enhanced learning. This will require providing faculty with the appropriate tools and resources and a culture that recognizes and rewards faculty effort in this area. Such a focus will allow for expansion of the educators’ toolbox, including new teaching skills, greater understanding of adult learning, and expertise in new student-assessment techniques and curricular topics.

Reorganization

The increasing complexity of curricular management, the costs of information technology and simulation, and the need for more integrated curricular programs necessitates a reorganization of the education mission. Mechanisms to facilitate and reward collaboration, innovation and coordination will advance curriculum change and development of interdisciplinary learning opportunities.

Financial assistance

As the costs of education rise, other schools are increasing their financial-aid packages to mitigate debt. To stay competitive, the School will need to step up its financial-aid efforts to ensure broad access to our education programs and remain competitive for the best students.
PRESERVING OUR STRENGTHS

Our vision for the future must preserve the qualities that make Washington University School of Medicine one of the nation’s best.

Overall:

- Intellectually stimulating environment
- Ability to attract and enroll talented applicants
- High-caliber faculty who are leaders in their disciplines and strong role models
- Leading-edge health care environment and facilities
- Highly collaborative culture with opportunities for interaction and mentoring
- Student exposure to a variety of learning opportunities (interest groups, selectives, extracurricular activities)

In clinical education:

- Outstanding clinical training programs: Medicine, Physical Therapy, Occupational Therapy, Audiology and Communication Sciences
- Partnership with two elite hospitals
- Environment that demonstrates the importance of biomedical research in clinical care
- Excellent knowledge of human biology and disease
- Strong emphasis on clinical decision-making and problem-solving skills

In research education:

- Excellent PhD training via 12 Division of Biology and Biomedical Sciences programs and several interdisciplinary pathways
- Superb Medical Scientist Training Program (MD/PhD) program that trains physician-scientists of the future
- Ample opportunities for MD students to engage in research
- Post-doctoral opportunities in numerous fields
- Trainee investment as a recruitment pipeline
Enhancing Excellence

Given the significant changes occurring in education, achieving our vision of training leaders who will advance human health requires a transformation of the mission. The School proposes five education initiatives.

**GOAL 1:**
Enhance student and trainee support, the curricula and the learning environment.

To continue to attract the best and the brightest students and trainees and to remain competitive with peer institutions, the School must offer innovative, integrated curricula and provide resources so that qualified students and trainees can access our educational programs.

**TACTICS:**
- Develop more signature and customized learning opportunities (e.g., modular and longitudinal courses, joint degrees, team-based learning).
- Enhance international experiences for students (electives, lecture series, etc.).
- Continue to expand and enhance curricula in new and emerging areas, including prevention and community/population health.
- Provide increased opportunities for student/trainee mentoring by faculty.
- Offer more competitive scholarships, financial aid and stipends.
- Achieve greater student/trainee/faculty diversity.
- Offer extracurricular opportunities in leadership, community service and professional development.
**GOAL 2:**
Enhance research training through establishment of the Integrated Human Biology Initiative.

Building on the model of the Division of Biology and Biomedical Sciences (DBBS), the Integrated Human Biology Initiative will support new interdisciplinary training programs that bring together biological, clinical, physical, social, engineering and population sciences.

**TACTICS:**
- Establish new PhD programs and pathways in:
  - Translational Medicine and Clinical Investigation
  - Community Health and Population Science
  - Epidemiology and Biostatistics
  - Imaging
  - Systems Biology
  - Environmental Sciences
  - Other disease-based pathways
- Establish new master’s degree programs:
  - Master’s Program in Population Health Science
  - Joint MD/MPH
- Expand support for the DBBS:
  - Increase stipends for DBBS and Medical Scientist Training Program (MSTP) students.
  - Expand MSTP class size by 5 (to 30) and DBBS class size by 20 (to 100).

**GOAL 3:**
Cultivate teaching excellence.

Develop, support and recognize excellence in teaching and educational scholarship.

**TACTICS:**
- Establish an Academy of Educators as a multidisciplinary resource center with three complementary areas of focus:
  - Educator Skills Development: Provide programs for improving teaching skills (workshops, seminars, peer coaching, consultation, mentoring).
  - Education Scholarship: Promote educational research with the goals of publication, dissemination and national recognition. Recruitment of an education scholar will be key.
  - Support for Teaching and Educational Activities: Support faculty who contribute significant time and effort to teaching, provide substantive curriculum (e.g., coursemasters) and develop innovative teaching methods (e.g., endowed professorships, clinical teaching mentors, protected time).
- Establish a promotion system to reward leaders in teaching and education scholarship.
GOAL 4:
Revolutionize educational content delivery through technology.
Meet the needs of the 21st-century learner by using technology to strengthen and enhance education.

TACTICS:
- Establish a multidisciplinary Center for Education Technology and Information Management (CETIM). The Center will centralize technology support, curriculum support and information management and provide support on three levels:
  - Educational technology: Develop a unified curriculum management system available to all programs.
  - Curriculum development: Provide resources to assist faculty in using technology in all educational activities such as teaching, learning, student assessment and program assessment.
  - Information management curriculum: Enhance biomedical informatics curriculum.
- Continue to build expertise, capacity and leadership in simulation-based training as a teaching tool for students, trainees and established professionals.

GOAL 5:
Create an educational structure and governance model that supports collaboration and drives change.
Provide clear reporting relationships, coordinate curriculum development, leverage resources, provide for consistent oversight, facilitate the spread of innovative developments and provide a “home” for many of the interdisciplinary initiatives identified in this Plan that the current education structure does not accommodate.

TACTICS:
- Create new senior leadership positions:
  - A senior education-oversight position, reporting to the dean, with full responsibility for all educational programs and resources.
  - A leadership position responsible for all medical student education.
- Establish a funding mechanism for the education mission to allow for long-range planning and implementation.
- Evaluate the governance and organizational structure for training programs.
Washington University’s clinical enterprise is the foundation that supports the School of Medicine’s broader tripartite mission.

Washington University Physicians is the third-largest academic group practice in the nation. It is made up of 1,061 full-time faculty physicians representing more than 50 specialties and subspecialties in medicine and surgery. Our faculty group practice:

- Provides an essential patient base for training future health care professionals.
- Serves as the platform for addressing important clinical questions, fostering new knowledge and bringing new medical discoveries to clinical care.
- Plays a key role in driving the clinical and financial success of the School’s major teaching hospitals.
- Provides financial support for the School’s teaching and research missions.

KEY CHALLENGES

Barriers to growth
The continuing ability to generate professional practice and hospital operating surpluses is highly dependent upon the continued growth and expansion of the clinical enterprise. Potential barriers include:

- Market size, population growth and demographic trends.
- Increasing competition from community hospitals and providers.
- A shrinking primary care base.
- Patient access and physical plant capacity constraints.
- Capital and recruitment costs associated with clinical practice expansion.
Population demographics

Approximately 4.9 million people live within a 150-mile radius of Washington University School of Medicine (WUSM). Population in the greater St. Louis area is projected to grow slowly (0.4 percent annually) — and exclusively in the suburban areas. Just as BJC HealthCare has developed new facilities (e.g., Progress West in O’Fallon, Missouri) in attractive markets, it is essential that WUSM responds to changing population demographics.

Although the Medical Center is and will continue to be the primary focus of our clinical practice, expanding our off-campus presence — especially outpatient care — will allow WUSM to attract new patients, capture additional market share, diversify its payor mix and drive more admissions and downstream revenue to WUSM and to our hospital partners. To succeed, off-campus initiatives must offer geographically convenient, patient-focused ambulatory services in a highly efficient manner. In addition, WUSM, Barnes-Jewish Hospital (BJH) and St. Louis Children’s Hospital (SLCH) must provide easy access and service excellence to patients and referring physicians.

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<th>Distance from StL (mi)</th>
<th>Population</th>
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Health literacy and preventive care

Health care costs are rising at more than twice the rate of inflation and now account for 16 percent of the U.S. gross domestic product, or more than $7,000 per capita. Many factors contribute to medical inflation, including the aging population and a proliferation of new technologies and medical discoveries that redound to the benefit of society. Other cost drivers include a tendency among competing providers to generate demand for profitable clinical services, direct consumer marketing of pharmaceuticals and unhealthy lifestyle choices among the American public.

While not a singular solution, promoting preventive care and a healthy lifestyle offers an opportunity to improve health status and mitigate the nation’s rising health care costs. For example, preventable causes of illness such as smoking, alcohol abuse, poor diet and physical inactivity lead to 900,000 deaths annually — nearly 40 percent of total yearly mortality in the United States (Mokdad et al., JAMA 2005:293:293-4).

Preventive care has traditionally been viewed as the primary care physician’s responsibility, in part, because there is a long-term doctor-patient relationship that affords the opportunity for continuity of care. In contrast, subspecialists typically play a consultative role and may be involved in only a brief segment of a patient’s overall care. While only a small fraction of WUSM full-time faculty practice in primary care disciplines, there are opportunities for WUSM to help promote health literacy and preventive care.

The importance of primary care

Primary care is the backbone of our nation’s health care system and the key to meeting basic health care needs and promoting health literacy, healthier lifestyles and preventive care. Primary care physicians are also an important source of referrals to WUSM and are essential to continued growth of WUSM’s clinical practice.

Regrettably, medical student interest in primary care careers is diminishing, a national trend reflected here. This decline is driven by a growing disparity in earning potential compared to specialists, significant debt among graduating medical students, growing demands and pressures on time, and lifestyle choices.

Locally, over the past 10 years the number of WUSM internal medicine residents choosing primary care careers has declined from 15 per year to two per year. In addition, the number of general internists on staff at BJH has declined. Many competitor hospitals are aggressively employing primary care physicians, thereby reducing WUSM’s ability to capture patient referrals. In order to strengthen WUSM’s primary care referral base, we must create strategies to “grow our own” and/or develop sustainable linkages with community physicians.
TRENDS AND OPPORTUNITIES

Strategic growth

The WUSM and BJH serve three distinct patient bases, rated by the level of medical complexity and specialization:

- Tertiary/Quaternary Care
- Metro Referral
- Basic City

BJH generates only a slight operating margin from inpatient care, all of which is derived from the hospital’s Tertiary/Quaternary patient base. The great majority of the overall operating margin is derived from outpatient services, predominantly from the Metro Referral patient base. Two-thirds of that margin is generated from outpatient imaging services.

In order to grow and expand the clinical practice, aggressive strategies and tactics must be developed for capturing additional Tertiary/Quaternary and Metro Referral business.

<table>
<thead>
<tr>
<th>WUSM/BJH Patient Bases</th>
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<tr>
<td><strong>Patient Base</strong></td>
</tr>
<tr>
<td><strong>Acuity</strong> (level of medical complexity and specialization)</td>
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<tr>
<td><strong>Competition</strong></td>
</tr>
<tr>
<td>Tertiary/Quaternary care is typically provided only by academic medical centers, but local providers are gaining capability.</td>
</tr>
<tr>
<td><strong>Geographic Base</strong></td>
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</tbody>
</table>
Pediatric care

The SLCH Neonatal Intensive Care Unit (NICU) provides advanced care for a clinically and economically diverse population — from extremely premature infants to full-term newborns requiring complex care. The NICU provides a significant contribution to the financial viability of the hospital, accounting for less than 4 percent of total admissions but nearly 20 percent of the hospital's annual net revenue.

Over the past three years, total births in SLCH’s primary and secondary service areas have declined by 1 percent annually. BJC HealthCare’s share of births has declined by 4 percentage points during this same time frame. This disproportionate decline in BJC’s presence in the obstetrics market has a negative downstream effect on SLCH.

To ensure a continued stream of NICU referrals, SLCH and WUSM must develop strategies to increase access to high-risk births in the primary and secondary service areas. Access to deliveries, both normal and high-risk, is a critical success factor in achieving this goal.
The Faculty Practice Plan has taken several recent steps to improve quality and patient safety:

- Implemented a new web-based patient safety/risk-management training program.
- Recruited a full-time Patient Safety Director.
- Established a joint telephone “SafeLine (7-SAFE)” with BJH to prospectively report identified situations or care processes that could result in patient harm.
- Developed new Guidelines for Patient Disclosure of Adverse Events.
- Deployed an integrated Ambulatory Electronic Medical Record with electronic prescribing capabilities across the faculty group practice.
- Established department and subspecialty-specific clinical quality and safety initiatives.

Quality and patient safety

WUSM, BJH and SLCH are committed to providing world-class care to patients by:

- Achieving superior clinical outcomes through the promotion and consistent application of evidence-based medical care.
- Applying sound medical judgment and expert clinical skills that set the standard for patient safety and reduce the possibility of medical errors and preventable harm.
- Preventing disease through the promotion of health literacy, wellness and healthy lifestyles.
- Improving the health status of patients with chronic medical conditions through optimal coordination of care across medical disciplines.
- Promoting innovative clinical research that will enhance patient outcomes.
- Ensuring that our faculty, fellows, residents, students and staff are well trained in the concepts of quality and patient safety.

WUSM, BJH and SLCH have worked in strong partnership to make quality and patient safety an institutional imperative. Moving forward, there are even greater opportunities to make WUMC the national leader in these areas.

Simulation

In the aviation industry, both novice and expert pilots are subjected to periodic flight-simulator training. Similar to pilots, health professionals must be prepared to practice under a variety of conditions, including emergent situations. Drawing from the aviation industry, many health care institutions have developed simulation facilities to teach critical skills, ensure clinical competence and improve clinical outcomes through interdisciplinary team training in simulated acute medical emergencies.

The Medical Center has made a significant investment in simulation-based training with the BJH/WUSM Center for Clinical Simulation and the planned Howard and Joyce Wood Center for Medical Simulation and Saigh Pediatric Simulation Center. Opportunities exist to more fully coordinate these activities and to make simulation resources more broadly available to our trainees, faculty and staff, as well as the community at large.
Enhancing Excellence

GOAL 1:
Ensure continued growth of WUSM’s clinical practice.

TACTICS:

■ Aggressively grow Tertiary/Quaternary business at WUSM and BJH.
  - Enhance and expand BJH critical-care capacity.
  - Recruit additional faculty in Tertiary/Quaternary care subspecialties.
  - Assist BJH with planning for expansion of acute care medical/surgical bed capacity and construction of a new inpatient bed tower.
  - Establish endowed chairs in targeted clinical areas.
  - Streamline and expedite the process for accepting transfers of critically ill patients.
  - Implement an aggressive Tertiary/Quaternary care marketing and physician-outreach strategy.
  - Further opportunities to grow outpatient ancillaries.
  - Replacement and expansion of BJWCH inpatient bed base.
  - Enhancement and marketing of BJWCH emergency department.

■ Enhance patient access, service and quality excellence at WUSM, BJH and SLCH.
  - WUSM: Uniformly provide new patient appointments within 14 days of request (seven days for cancer patients) and adopt a “Just Say Yes” philosophy for physician referrals across 31 core specialties.
  - BJH and SLCH: Streamline the scheduling of ancillary tests and procedures.
  - BJH: Pilot and expand a Service Excellence Training Program to improve patient satisfaction.

■ Aggressively grow the Metro Referral patient base for WUSM, BJH and SLCH.
  - Develop new geographically convenient, multidisciplinary ambulatory satellites in attractive suburban markets.
  - Develop a plan for the next phase of expansion at Barnes-Jewish West County Hospital (BJWCH) to address:
    - Future medical office-space needs for WUSM faculty.
    - Expansion of our primary care base.
  - Enhance and expand BJH critical-care capacity.
  - Recruit additional faculty in Tertiary/Quaternary care subspecialties.
  - Assist BJH with planning for expansion of acute care medical/surgical bed capacity and construction of a new inpatient bed tower.
  - Establish endowed chairs in targeted clinical areas.
  - Streamline and expedite the process for accepting transfers of critically ill patients.
  - Implement an aggressive Tertiary/Quaternary care marketing and physician-outreach strategy.
  - Further opportunities to grow outpatient ancillaries.
  - Replacement and expansion of BJWCH inpatient bed base.
  - Enhancement and marketing of BJWCH emergency department.

■ Explore development of a Mothers and Infants Pavilion in collaboration with SLCH and BJH.
  - Develop a more integrated mothers and infants program that will differentiate WUMC as a national leader in this field.
  - Determine mid-term and long-term strategies including the feasibility of a new Mothers and Infants Pavilion on the Washington University Medical Center campus.
GOAL 2: Address primary care needs and enhance WUSM’s primary care referral base.

TACTIC: Strengthen WUSM’s primary care referral base.
- Pilot a primary care mentorship program for internal medicine residents in community-based ambulatory practice settings.
- Expand primary care employment opportunities through Washington University Clinical Associates (WUCA) and/or BJC Medical Group.
- Pilot a loan forgiveness program for newly recruited general internists.
- Make it easier to refer patients by streamlining and simplifying subspecialty referral processes.
Enhance and expand simulation-based training and education on the Medical Center campus.

- Employ simulation technology to:
  - Improve clinical outcomes through interdisciplinary team-based training in simulated acute medical emergencies.
  - Assess clinical competency and performance as a part of credentialing and re-credentialing.
  - Teach critical clinical skills to trainees, faculty and other members of the health care team.
- Invest in development of simulation resources:
  - Create an endowment to support ongoing core operating costs for simulation training programs.
  - Provide training grants to support development and implementation of simulation-based curricula.

Use quality- and safety-performance data to improve patient care processes.

- At the department and division level, develop and regularly track key subspecialty-specific quality indicators.
- Utilize indicators to facilitate clinical quality and patient safety process-improvement.

Improve health literacy, disease prevention and chronic disease management.

- Build on current collaborations with the St. Louis Integrated Health Network and local Federally Qualified Health Centers to connect patients to a medical home.
- With the Alvin J. Siteman Cancer Center, prevent cancer and improve cancer clinical outcomes in underserved and minority populations.
- Leverage WUSM’s electronic medical record (EMR) system to promote preventive care, healthy lifestyles, and optimal management of patients with chronic illnesses.
- Create a healthy workplace and improve the health of WUSM’s employee base.
- Partner with regional businesses to promote preventive care, healthy lifestyles and healthy workplaces.
COMMUNITY HEALTH & POPULATION SCIENCE
Framing our Future

The School of Medicine excels at delivering advanced clinical care on an individual level. We believe, however, that to broaden our impact on human health and ensure success across all our missions, we must broaden our scope to address health issues at the population level. This requires a focus not only on treatment, but also on prevention, the impact of environmental and social determinants of health, health care delivery systems, and genetic and behavioral influences.

Fundamentally, we must establish Community Health and Population Science as a core set of academic disciplines. Community Health and Population Science brings together many areas of expertise — biostatistics, computational analysis, epidemiology, clinical research skills, decision sciences, health service research/knowledge translation, and others — to collaboratively study and improve human health on a broad scale. Establishing this new focus requires that we build on existing expertise, expand collaborations across the University, and forge strong partnerships with the local community and internationally. Done well, this endeavor will support the University’s Institute for Public Health, integrate all of our missions, and catalyze innovative approaches to addressing the most compelling public health issues.

KEY CHALLENGES

We face several significant and long-standing challenges. Overcoming them will require commitment and sustained investment if we are to ascend in research, education and application in these areas.

Lack of an academic home and critical mass of academic disciplines for Community Health and Population Science

Historically, no school-wide organization focusing on Community Health and Population Science has existed. Most research efforts have been facilitated by individual faculty who reside within various departments and programs. In competing with other elite medical schools for top-notch recruits, Washington University remains at a disadvantage due to the lack of an academic home for these disciplines.
The lack of organizational structure impacts opportunities for reward and promotion for faculty working within these disciplines and encourages inefficiencies and duplication of efforts and resources. In addition, there is a growing institutional need for access to and collaboration with faculty members who have expertise in supporting the quantitative and computational needs of our existing and growing research initiatives (i.e., biostatistics, computational analysis, epidemiology, clinical research skills, decision sciences, health service research/knowledge translation, and others). Building a critical mass of faculty with expertise across population science will:

- Provide support for a broad range of research within many departments.
- Advance innovative science and methodologies within these disciplines.
- Generate new opportunities for training medical school students, residents and fellows.
- Facilitate community involvement.

Limited academic training opportunities

A PhD program is crucial for building a strong academic program in Community Health and Population Science and for recruiting and retaining outstanding faculty. The absence of such a program has hampered the establishment of population science as an academic discipline at the School of Medicine. However, interest in the disciplines is well established; since the School of Medicine does not offer a Master's of Public Health (MPH), some of our students and trainees have pursued degrees from other institutions. Concepts such as community-based participatory research, cultural competency, health literacy, community building, advocacy and health systems reform are essential to training well-rounded physicians and health professionals but currently are not areas of emphasis within the School.

Lack of effective engagement with the community

Despite some longstanding and successful community partnerships, the School has not excelled in community engagement. It has developed a reputation for being insensitive to community needs and focusing only on its own research goals, resulting in a general distrust of the institution. To regain credibility and trust, we must actively engage the community and develop equitable, collaborative partnerships, without dictating agendas. There must be formal structures and processes for dialogue and collaboration to define research and program needs that align with community priorities, and our efforts must be sustainable over the long term. Without such an approach — both locally and globally — our ability to benefit health practices on a large scale will be limited at best.
TRENDS AND OPPORTUNITIES

Existing strengths in research, education and clinical care

The School has substantial strengths on which to build. We possess a powerful research enterprise in relevant areas such as genetics, genomics, proteomics, disease-focused research initiatives and infectious diseases. We have a small but successful core of programs in community-based research and quantitative population-based sciences. We practice world-class clinical care via the nation’s third-largest academic physician practice and therefore have access to an enormous patient population. Our students and trainees are exceptional and have demonstrated strong interest in this area of study, locally and internationally, by actively and successfully creating their own opportunities for community engagement, exposure to public health, clinical research and service learning. We also possess a rich multidisciplinary, collaborative culture and the opportunity to strengthen it by establishing new partnerships with the George Warren Brown School of Social Work, the Center for Applied Statistics, the Olin Business School, and the Schools of Engineering, Arts & Sciences and Law.

Research funding trends

Increasingly, research funding is targeted toward projects and institutions that demonstrate the ability to move discoveries not only from bench to bedside, but into broader populations. We must develop this expertise, as have most of our peers, to compete successfully for these opportunities. While Community Health and Population Science has not been a traditional strength at the School of Medicine, we are well positioned to build on our existing strengths and partnerships.
Opportunities to improve outcomes and address disparities

Our local area provides substantial opportunities for improving health outcomes and health disparities. Missouri’s health system ranks 37th in the nation; the state places 47th in obesity and 41st in smoking. The City of St. Louis suffers from excess heart disease, diabetes, infant mortality, sexually transmitted infections and cancer mortality compared to state and national averages. Poverty and health disparities are compelling challenges as well.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>St. Louis City</th>
<th>St. Louis County</th>
<th>Missouri</th>
<th>United States</th>
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<tbody>
<tr>
<td>Heart Disease Mortality</td>
<td>292</td>
<td>270</td>
<td>256</td>
<td>222 (2004)</td>
</tr>
<tr>
<td>(Crude rate per 100,000)</td>
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<tr>
<td>(Crude rate per 100,000)</td>
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<tr>
<td>Infant Mortality</td>
<td>12.4</td>
<td>8.8</td>
<td>7.5</td>
<td>6.4 (2004)</td>
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<tr>
<td>(Per 1,000 live births)</td>
<td></td>
<td></td>
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<tr>
<td>Incidence of STDs</td>
<td>2,115.1</td>
<td>638.7</td>
<td>562.1</td>
<td>459.6 (2005)</td>
</tr>
<tr>
<td>(Crude rate per 100,000)</td>
<td></td>
<td></td>
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<tr>
<td>Incidence of HIV Infection</td>
<td>50.2</td>
<td>10.2</td>
<td>10.7</td>
<td>13.6 (2005)</td>
</tr>
<tr>
<td>(Crude rate per 100,000)</td>
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Source: St. Louis Regional Health Commission Report, “Progress Towards Building a Healthier St. Louis.”
Existing partnerships

Locally, the School of Medicine has several existing, successful community-based programs that provide a starting point for future engagement and development. (See sidebar for examples.)

On a global scale, the School of Medicine has made significant contributions in nutrition with the Malawi, Africa, Peanut Butter Project and will play a leading role in an international collaboration to sequence the genomes of 1,000 individuals by participating in the 1,000 Genomes Project, designed to create the most detailed picture to date of human genetic variation and assist in the identification of many genetic factors underlying common diseases. In addition, the McDonnell International Scholars Academy has become a major hub of international activities at Washington University and offers a launching pad for developing future overseas partnerships in community health and population science work.

Building Relationships

The School’s existing community relationships provide a foundation for growth:

- A seven-year partnership with the Regional Health Commission and the Integrated Health Network to restructure the region’s safety-net health care system and stabilize its funding.

- Alvin J. Siteman Cancer Center programs addressing disparities in cancer outcomes and access to care.

- With our teaching hospitals, serving as major health care providers to the region’s medically underserved populations.

- Departments of Pediatrics and Obstetrics & Gynecology’s outreach programs addressing women’s and children’s health.

- The Program in Occupational Therapy’s partnership programs to improve quality of life in older adults and the mobility-impaired.

- Providing clinical services at the Veterans Administration Hospital, Grace Hill Neighborhood Health Centers (the region’s largest Federally Qualified Community Health Center) and Saint Louis ConnectCare (the outpatient specialty organization of the region’s safety-net health care system).
Enhancing Excellence

To address the need to broaden our impact, the School of Medicine establishes a major focus on Community Health and Population Science.

Its central purpose is to develop expertise and resources for population-based research, education and health care practice. Its ultimate goal is to allow the School to lead the way in translating discoveries from basic and clinical research into large-scale health benefits that will advance the health of communities and populations. This endeavor requires a new structure that crosses boundaries, builds on existing strengths and adds new expertise.
MAJOR INITIATIVE:
Creation of the Institute for Public Health

In response to broad interest, Washington University has created the Institute for Public Health as a partnership of the School of Medicine and the George Warren Brown School of Social Work. The Institute will:

- Serve as a common locus for population health science across departments, schools and disciplines.
- Serve as a bridge among basic science, clinical research and population science (e.g., genetics in populations, epidemiological studies, prevention through health care providers, regulatory strategies, community-based changes in individual behaviors and environmental strategies).
- Enhance collaboration and promote multidisciplinary research and programs across the University.
- Through distinctive multidisciplinary research discoveries and service interventions, address significant local, national and international community and population health problems.
- Facilitate learning opportunities to train a cadre of leaders who have an evidence-based approach to public health interventions, health services and health policy.
- Develop, enhance and sustain partnerships with the local community.
- Coordinate priorities for collaborative, community-based health promotion activities across the University that will reduce health disparities and produce measurable improvements in health outcomes.
- Provide centralized research-support services and facilities for the activities of the Institute.
GOAL 1:
Develop a major academic unit for Community Health and Population Science.

TACTICS:
- Create a department or major academic unit for Community Health and Population Science at the School of Medicine that will:
  - Serve as a foundation for the Institute of Public Health.
  - Integrate new understandings of disease risk and progression with population-based prevention strategies.
  - Provide an academic home for faculty in population-science disciplines.
  - Enable recruitment of outstanding faculty.
  - Enhance research capacity in biostatistics, epidemiology and statistical genomics. Develop new strengths in decision sciences and health-service research/knowledge translation.
  - Facilitate development of population-science training programs.
- Enhance inherent research strengths in our Clinical and Translational Science Awards partnerships and research in our Multidisciplinary Disease-Based Research Initiatives by extending discovery into practice.

GOAL 2:
Train experts and academic leaders in Community Health and Population Science and provide broad exposure to these disciplines for students, trainees and faculty.

To avoid duplication, gain efficiency and maximize resources, all education and training initiatives have been integrated with the Education Plan.

TACTICS:
- Develop a PhD program to build on existing strengths, beginning with epidemiology and biostatistics, expanding to include decision sciences and health-service research/knowledge translation.
- Develop a joint MD/Master’s of Public Health degree and a Master’s Program in Population Health Sciences, which will share curricula with other master’s degrees at the School of Medicine and provide specialization in genetic epidemiology, psychiatric epidemiology, clinical investigation, health-services research and knowledge translation. The programs will place Washington University School of Medicine at the forefront of training physicians and other clinicians to lead research in academic programs.
- For our students, residents, fellows and other trainees, expand interdisciplinary training that encompasses basic science, clinical medicine, public health, service work and cultural competency, and broaden training opportunities.
GOAL 3: Improve health outcomes of the city, state and region through community partnership and advocacy.

TACTICS:

- **Improve local community partnership and engagement.**
  - Coordinate high-level community input through existing community advisory boards and the development of a Community Council for the Institute for Public Health.
  - Offer training in program evaluation and communication strategies to community partners.
  - Identify health problems deemed mutually important to the community and School; work together to create sustainable interventions that can be evaluated.
  - Collaborate with community partners such as the Regional Health Commission, Missouri Foundation for Health, the Integrated Health Network, Veterans Administration, St. Louis Public Schools, City and County Departments of Health, BJC HealthCare hospitals, Saint Louis University School of Public Health, local and regional businesses and community service organizations, the State of Missouri, and others.

- **Build infrastructure to promote and sustain community-based research.**
  - Strengthen and expand the Institute for Clinical and Translational Science's Center for Community-Based Research.
  - Facilitate new community partnerships through a central office at the level of the Institute for Public Health.

- **In coordination with the School’s Clinical Strategic Plan, improve health literacy, prevention and optimal management of chronic disease.**

- **With the Siteman Cancer Center, prevent cancer and improve cancer clinical outcomes in underserved and minority populations.**

- **As outlined under Research and Education, build research and training excellence in outcomes, clinical effectiveness and health-services research.**
COMMUNITY

GOAL 4:
Enhance our impact on global health.

TACTICS:

- Develop infrastructure to better coordinate international research and education initiatives.
- Establish and expand research programs in cities, regions and countries where we already have a presence and established partnerships, creating new linkages with other areas of the School’s research excellence.
- Expand, improve and coordinate St. Louis-based elective coursework in global health; enhance structured educational experiences for students and trainees participating in international research and programs.
- Collaborate with the McDonnell International Scholars Academy’s University Partners (sister institutions) and develop partnerships with other universities, funding organizations, governments and industries.
- Conduct ongoing strategic planning to identify priorities for research and programs.
CONCLUSION
Our Pledge

The leadership, faculty, students and staff of Washington University School of Medicine imagine a future of improved health for everyone. We embrace the changes and efforts that are necessary to bring it about. We are committed to pursuing biological knowledge more insightfully, imagining and testing how it can be applied, and then delivering care with accuracy and compassion. What we learn, we will pass on rigorously and share generously, imagining new ways to influence the health of entire populations. By working collaboratively, without regard for outdated boundaries, we will multiply the effects of our work.
Summary of Goals

RESEARCH

- **Implement Disease-Based Research Initiatives**
  - Cardiovascular and Metabolic Diseases
  - Cancer
  - Neurosciences
  - Infectious Diseases
  - Women’s and Children’s Health

- **Establish Technology-Based Research Platforms**
  - Biomedical Informatics
  - Regenerative and Developmental Biology
  - Imaging
  - Genetic and Molecular Phenotyping
  - Chemical Biology
  - Clinical and Translational Research

EDUCATION

- **Enhance student support and the learning environment.**
- **Establish Integrated Human Biology Initiative.**

CLINICAL

- **Grow WUSM’s clinical practice.**
- **Address primary care needs and enhance primary care referral base.**
- **Improve quality, patient safety and health status of patients and community.**

COMMUNITY

- **Develop an academic unit for community health and population health sciences research.**
- **Train experts and academic leaders in community health and population sciences.**
- **Improve health outcomes of the city, state and region.**
- **Enhance our impact on global health.**
### Implementation Timeline

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<tbody>
<tr>
<td>Construct Biomedical Research Building II</td>
<td>![2018]</td>
<td>![2020]</td>
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*Included in the facility plans of BJC HealthCare, Barnes-Jewish Hospital*
Our hope is that a major portion of the investment will come in the form of endowed and non-endowed faculty support, scholarships and one-time investments to support new faculty, programs and buildings.

**People:**
- Recruitment: 205 new faculty (including a mix of endowed and non-endowed support)
- Scholarships and stipends for students/trainees

**Buildings:**
- Replacement graduate housing
- Three research buildings

**Programmatic Initiatives:**
- Equipment (simulation, unified computer system, sequencing)
- Research core facilities and pilot feasibility studies
- Curriculum-management system
- International office
- Community partnership programs