



HARVARD
MEDICAL SCHOOL

MASTER'S DEGREE PROGRAMS



Transform your career—and your sense of what's possible—in one of the world's great centers of learning



MASTER OF ACADEMIC DISCIPLINE PROGRAMS

Each requires 36 academic credits of scholarly work, including a 4-credit capstone project

BIOETHICS

BIOMEDICAL INFORMATICS

CLINICAL SERVICE OPERATIONS

HEALTHCARE QUALITY AND SAFETY

MASTER OF MEDICAL SCIENCE PROGRAMS

Each requires 64 academic credits, including a 32-credit mentored research experience

CLINICAL INVESTIGATION

GLOBAL HEALTH DELIVERY

IMMUNOLOGY

MEDICAL EDUCATION

MASTER OF SCIENCE PROGRAM

Requires 36 academic credits of scholarly work, including a 4-credit capstone project

MEDIA, MEDICINE, AND HEALTH





Welcome to Harvard Medical School.

Congratulations on considering the next step in your career. Now, more than ever, the world needs leaders who are dedicated to alleviating suffering and improving health and well-being for all. Harvard Medical School's master's degree programs offer rigorous training to advance basic scientific, clinical, biosocial, operations science and translational research in biology and medicine.

Our programs bring together outstanding students from across the globe and in various stages of their careers. As a student, you will have the opportunity to learn from leading scholars, researchers and clinicians. Our programs draw upon the vast expertise at Harvard Medical School, our outstanding affiliated hospitals and research institutions and the resources of a world-renowned University.

By joining our community, you become part of a distinguished student body, poised to achieve your educational and professional goals while tackling a complex and ever-evolving science and health care landscape.

Our master's programs are designed with our students' interests first. Programs combine classroom-based instruction with action-based learning, clinical and laboratory-based research and access to expert advising and mentorship—all with the goal of delivering transformative educational experiences.

Our students have access to influential thought leaders, expert clinical insights, breakthrough research and unparalleled libraries and research facilities.

By applying to Harvard Medical School, you will have an opportunity to join one of the premier educational institutions in the world and to become a lifelong member of the Harvard community.

George Q. Daley, MD, PhD
Dean of the Faculty of Medicine
Harvard Medical School

Rosalind A. Segal, MD, PhD
Dean for Graduate Education
Harvard Medical School



We educate leaders on the front lines of medicine and science—enhancing their capacity to alleviate suffering, improve lives and shape a healthier, more equitable future.



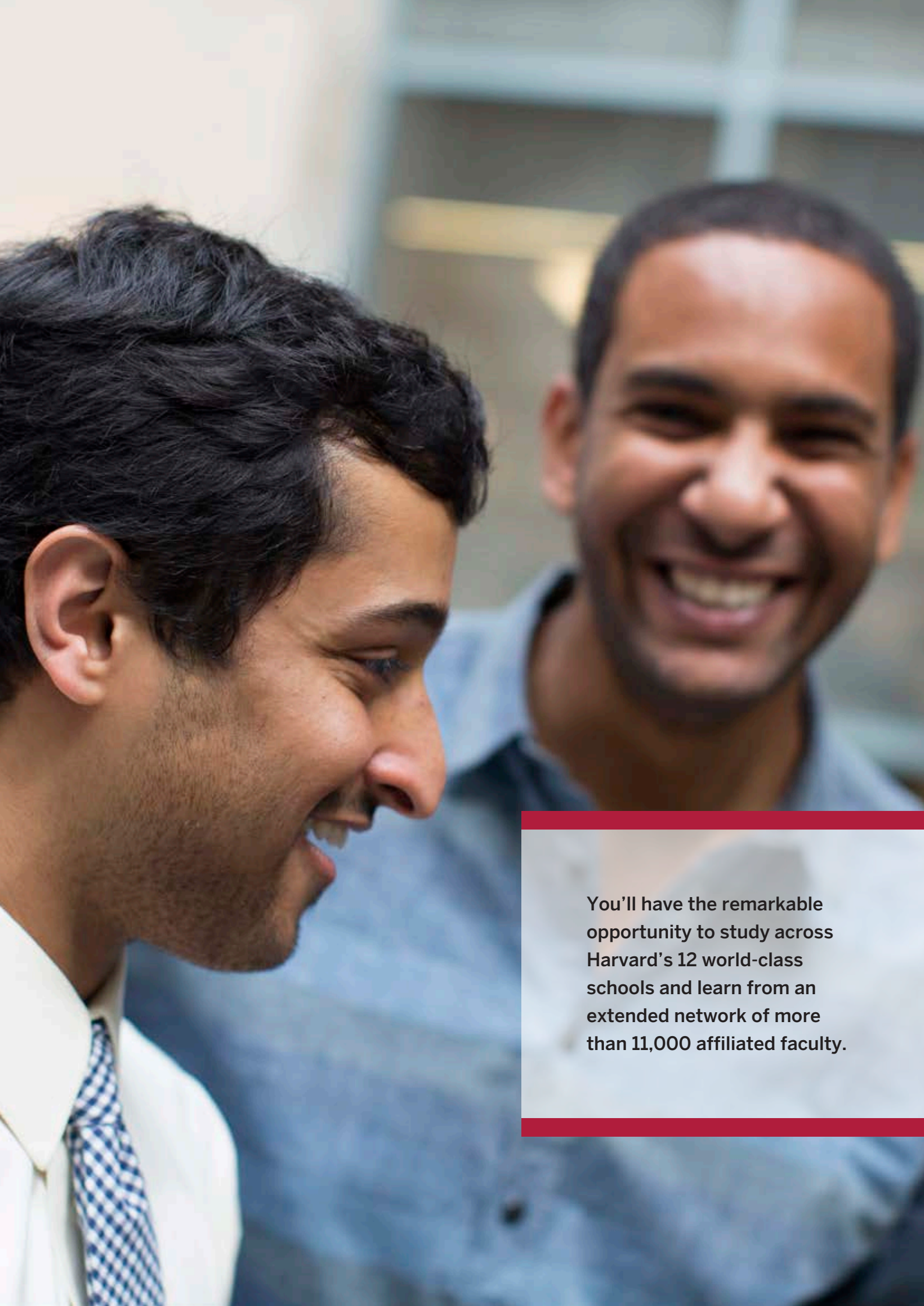
Life-changing. Life-saving.

We're dedicated to sharing knowledge, fueling discovery and preparing the next generation of leaders in clinical care, health sciences research, medical education, operations science and other dynamic fields. Students come to HMS with a range of backgrounds. We provide the rigorous training they need to launch the next stage of their careers and create a powerful and positive impact on the world—because what happens here matters everywhere.

All of our master's programs are designed to advance the goal of improving human health and well-being. Whether it's training tomorrow's cancer immunologists or educating front-line health care workers in resource-limited countries, we change students' lives for the better, and prepare them to save lives all over the world.

Our programs cover critical topics at the leading edge of medical science and research, and immerse students in the latest scholarship, emerging best practices and groundbreaking technology. They benefit from close, collaborative relationships with peers and faculty members as they expand their knowledge base and learn to apply their skills in real-world settings. International students bring their expertise back to their home countries, creating a ripple effect as they work with colleagues to enhance the health of their communities.

Our graduates assume positions of leadership around the world in environments that range from health care institutions and technology companies to media organizations. Collectively, they—and we—constitute a force for good for human health.



You'll have the remarkable opportunity to study across Harvard's 12 world-class schools and learn from an extended network of more than 11,000 affiliated faculty.



Welcome to the family.

When you enroll in a master's program at Harvard Medical School, you join one of the world's premier learning communities. Harvard University is home to an unbelievable wealth of talent, creativity and curiosity. We're eager to have you not only benefit from that tradition, but also contribute to it.

LEARN. EXPLORE. APPLY.

You'll study alongside peers with wide-ranging life experiences, belief systems and perspectives as you build the skills to advance your career. To help you make the most of your experience, our faculty and staff advisers—whose ranks include some of the most respected experts in the field—provide close guidance and support at every step of the way.

Outside the classroom, Harvard hosts countless events over the course of the year that provide intellectual, academic and cultural

enrichment. Boston and Cambridge are also incredible assets—professionally and personally. Dive into the cultural life of the city or hone your professional practice through interactions with the thousands of leading clinicians and researchers in the area.

After completing your program, you'll continue to benefit from one of the greatest alumni networks in the world. Wherever your path leads, you'll always be part of Harvard's community.

MASTER OF BIOETHICS (MBE)**Tackling cutting-edge issues in medicine and bioscience for the good of all****Fast Facts**

The Master in Bioethics is a 36-credit program, including the four-credit capstone

Many classes are held in the late afternoon, allowing part-time students to work while in the program

All capstone projects culminate with a poster presentation in the spring term

Harvard resources include the University's Safra Center for Ethics and the Petrie-Flom Center at Harvard Law School

Students benefit from a global network of faculty, alumni and affiliated organizations

Advances in medical technology have created amazing improvements in health outcomes—but they have also opened the door to increasingly complex ethical questions. What's the most compassionate way to approach end-of-life care? How can insurers and social programs increase access to care, and when do they go awry? When is it acceptable to manipulate a person's genes? Finding a satisfying solution to these seemingly unanswerable questions takes specialized skills.

Harvard Medical School's Master of Bioethics degree program—offered in one-year (full-time) and two-year (part-time) options—provides students with rigorous academic grounding in bioethical issues related to clinical practice and research, as well as health law and policy. Students can customize the program to their specific interests by selecting from a wide range of elective courses.

Each student completes a mentored capstone experience that involves either a field placement or research project and that complements their program studies.

Our students enroll from diverse educational and professional backgrounds; many already hold a terminal or professional degree in medicine, law, social work, chaplaincy, journalism and other fields. The common factor is a commitment to wrestling with issues of fairness, equity and justice in health care and medical research.

Most courses are taught at the HMS Center for Bioethics, which draws faculty from more than a dozen Harvard-affiliated teaching hospitals and institutions. United by their passion for the subject matter, faculty and students enjoy close relationships.





MASTER OF BIOMEDICAL INFORMATICS (MBI)

Information is power—biomedical information is the power that can help to heal

In both clinical and biomedical research domains, we have become inundated by an overwhelming amount of raw data. Handled capably and strategically, this data can be invaluable in helping to find cures and treat patients. Whether it's the enormous data sets generated by basic science investigations or the constantly growing databases of electronic health records that must be both accessible and protected, the need to study, store and leverage all this information has made informatics a core part of the clinical equation.

Harvard Medical School's Master of Biomedical Informatics (MBI) degree is designed for students with strong quantitative skills who want to make an impact in the field of biomedicine, or those with—or pursuing—a doctoral degree in related fields who want to apply informatics in their practice or

research. The former will complete a traditional 48-credit master's program over three semesters; the latter qualify for an accelerated one-year, 36-credit program that can be taken full-time or part-time.

Both options offer a range of foundational courses in quantitative and biomedical subjects, as well as courses in emerging areas such as precision medicine, data science and data visualization. All students are required to complete a capstone research project under the mentorship of a Harvard faculty member.

Our graduates have gone on to a wide range of careers, including important positions in academic health centers, academic research laboratories and pharmaceutical and health care technologies companies. Some have also gone to medical school or pursued a PhD in the field.

Fast Facts

The U.S. Bureau of Labor Statistics reports that jobs in the biomedical informatics field will rise 22 percent through 2022

Our faculty comprise some of the world's most notable leaders in genomics and informatics

Students work on capstone projects for nine months

Typical capstone projects include developing new methods and tools, creating data resources and analyzing biomedical data

Our undergrads come from diverse academic backgrounds: computer science, math and statistics, economics, engineering, biology and more

Fast Facts

Our curriculum includes interactive case studies, an innovative seminar series, hands-on simulations and traditional and flipped classroom learning

The program culminates in a nine-month mentored capstone project at an HMS-affiliated hospital that enables you to apply your newly acquired skills and practical knowledge

Multidisciplinary faculty from Harvard Medical School and Boston-area hospitals prepare you to lead your health care organization through transformational change

Topics include clinical operations management, financial and strategic planning, health care quality and safety, systems design and information systems integration

MASTER IN CLINICAL SERVICE OPERATIONS (MCSO)

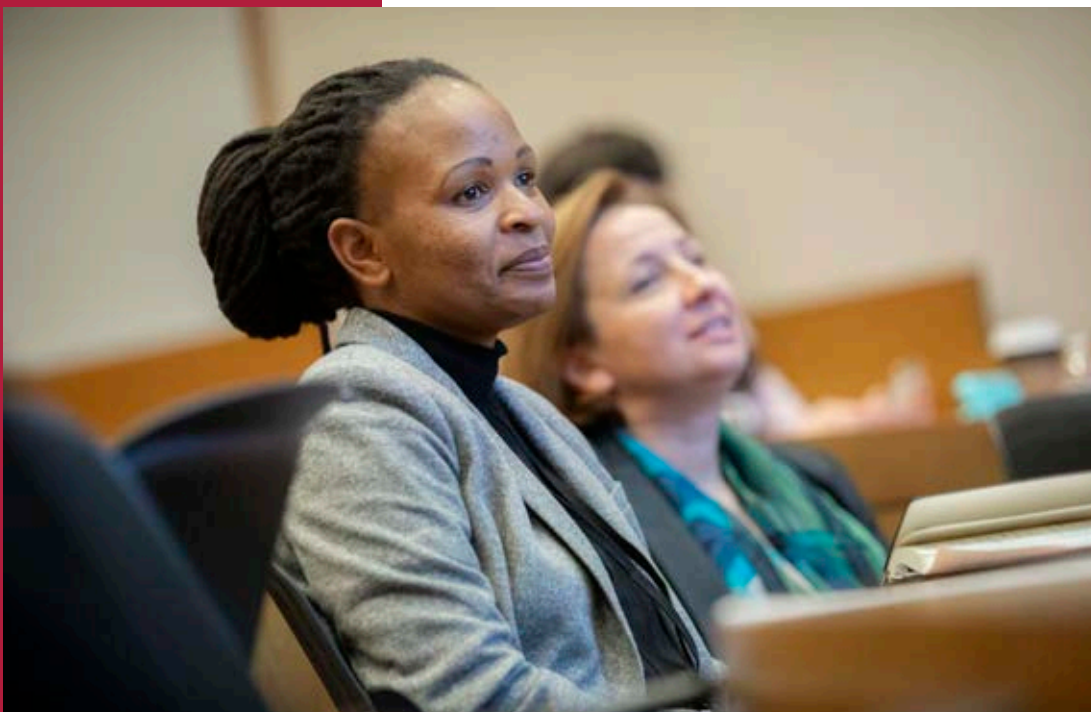
Building cutting-edge operations that save time, save money—and save lives

A clinic is far more than a building that houses care providers. It's a complex nexus of staff, physicians, patients, infrastructure and technology—and when it's designed and managed well, it's much greater than the sum of its parts. But how do we organize a department, a hospital or a system to ensure patients receive the best care in the most efficient way? How can we use data and technology to restructure service lines or to adjust processes to better connect patients with their care providers—and to build more collaborative, more engaged care teams? How can we evaluate, select and integrate the best new technologies into our care settings?

Harvard Medical School's Master in Clinical Service Operations endeavors to answer these questions and more through a multidisciplinary curriculum that spans traditional and innovative learning methods—from classroom study to hands-on simulations to a capstone project undertaken at a

Harvard-affiliated hospital. Available in full-time (one-year) and part-time (two-year) options, MCSO is a 36-credit residential program best suited to health care professionals and administrators who aspire to leadership positions in operations management. Applicants should hold an advanced degree such as an MD, PhD, BSN or MBBS.

At Harvard Medical School, MCSO candidates immerse themselves in a multidisciplinary learning environment that mirrors the working world. They explore new and cutting-edge approaches to operations management that range from telemedicine and real-time accounting to artificial intelligence. Then they put their skills to the test as part of their capstone project—partnering with and shadowing clinical service operations professionals to understand, analyze or improve the systems in place at a Harvard-affiliated institution.





MASTER OF HEALTHCARE QUALITY AND SAFETY (MHQS)

Systematically ensuring the best possible care and outcomes

Though health care quality and safety are paramount concerns today, the emphasis on patient safety as a mission-oriented imperative has only been common in the last 25-30 years. Medical and surgical procedures are complex undertakings involving numerous care providers, advanced equipment and ever-present risks. Ensuring that every measure has been taken to do no harm is a continuous challenge requiring specific skills.

Harvard Medical School's Master of Healthcare Quality and Safety program is designed for working clinicians and clinical administrators who want to design and lead strategic, systemic initiatives in quality improvement, risk management and patient safety at their home institutions or health systems. Our students come to us from all over the world, typically bringing at least three years of clinical experience as physicians, registered nurses, hospitalists, nurse practitioners, dentists, pediatricians and allied health care professionals.

Offered in full-time (one year) and part-time (two years) options, the MHQS program features a unique three-tiered academic model:

- Theoretical concepts that establish the foundational knowledge and skills required for quality and safety
- The opportunity to apply best practices in a health care setting
- The capstone experience, in which students design an intervention intended to make an improvement to a problem they have identified and analyzed

The capstone culminates in a report, with data, that demonstrates an understanding of the concepts, how they apply to real-life situations and the ways in which their intervention addressed those issues. Upon graduation, our students will be qualified to serve as safety officers, quality directors and other leaders at institutions of any size.

Fast Facts

This program offers both a full-time, one-year option and a part-time, two-year option

Our faculty are recognized leaders in the nation's most successful health care systems

Our learning model combines concrete theory with applied learning

Students gain a community of peers that will last throughout their careers

Learn best practices in use within the prestigious Harvard network of hospitals

- open-access
- Will be fully peer-reviewed near-term
- Primary source for content will be current events
- Research Ethics
- Health Law and Policy
- On occasion, Organizational Ethics and Human Resources
- "Frontiers" section- matters at the edge of medicine
- "Bioethics in the Medical-Healthcare Context"
- "Spotlight" video- features prominent authors
- Book review & video interview with authors

www.bioethicsjournal.hms.harvard.edu

Bioethics Journal

Spring 2017

ARTICLES

Keeping the Golden Rule Open
Why should the golden rule remain open-ended?
By J. Blake Bell, MD, PhD

Elton Corbett: A personal reflection on a life well-lived

From Justice to the Street

Practicing Justice
How do we practice justice in a complex world?
By J. Blake Bell, MD, PhD

RESEARCH WITH IMPACT

Each year, master's students have the opportunity to present their research to the Harvard community at the Master's Research Symposium.



Examples of recent master's thesis and capstone projects include:

Master of Bioethics

Cultivating reciprocity in rare disease data sharing

Master of Biomedical Informatics

A machine learning model for predicting medication error and ensuring medication accountability using electronic health record data

Master in Clinical Service Operations

Innovative approaches to capacity management at Massachusetts General Hospital

Master of Healthcare Quality and Safety

Improvement of the lymphatic surgery referral and evaluation pathway

Master of Medical Sciences in Clinical Investigation

Changes in oral microbiota are associated with cardiometabolic risk factors in adolescents

Master of Medical Sciences in Global Health Delivery

Cesarean wound care after hospital discharge: a qualitative study in rural Haiti

Master of Medical Sciences in Immunology

Biological engineering of natural killer cells for cellular therapy against cancer

Master of Medical Sciences in Medical Education

Interprofessional continuing professional development in rural hospitals; a mixed methods educational needs assessment

MASTER OF MEDICAL SCIENCES IN CLINICAL INVESTIGATION (MMSCI)

Leading discoveries that will change the course of health care in the world

Fast Facts

A two-year mentored research experience at a Harvard-affiliated laboratory

Renowned research faculty from Harvard Medical School, Harvard T.H. Chan School of Public Health and other Harvard-affiliated organizations

Students become leaders and gain practical experience with statistical programming, individual research projects and scientific writing

Contemporary pedagogical approaches such as “flipped classroom” methods, team-based learning and development of critical thinking skills

Specialized tracks and pathways for individualized learning

Major medical advances don't occur by accident. The journey from bench to bedside is fraught with challenges, requiring specific skills and extensive experience. Those interested in leading clinical and translational investigative efforts in an environment where funding is scarce, needs are urgent and competition is fierce will gain those skills and experience in Harvard Medical School's Master of Medical Sciences in Clinical Investigation (MMSCI) program. This two-year course of study features a parallel research experience in which students work with a Harvard faculty mentor in a Harvard-affiliated research group.

The MMSCI program is designed for professionals holding an MD, PhD, MBBS, MBCh or comparable degree currently working in clinical or translational research. Candidates from all over the world apply to this highly selective program; in fact, 80% of our students are from outside the U.S., enriching our program with their

varied perspectives and experiences. Upon graduating from this program, our students become independent investigators, go into industry as directors of research or chief medical officers or advance in clinical science as translational doctors.

Our program offers two customized learning tracks: a Clinical Investigation track and a Translational Investigation track. Within the Clinical Investigation track, we offer an additional choice between two pathways: the Comparative Research pathway and the Clinical Trials pathway. Across all tracks and pathways, students learn about ethical conduct, how to frame a research question, construct and test hypotheses, implement a study, analyze and interpret data and communicate the results of their study. The concurrent mentored research experience requires the development and presentation of two published papers.





MASTER OF MEDICAL SCIENCES IN GLOBAL HEALTH DELIVERY (MMSc-GHD)

Improving health care delivery to assure health equity

Health care is a human right. However, many people lack access to the health care they need. To achieve health equity, we must both improve biomedical systems and attend to the social forces that impact health and well-being. We must design systems that address social determinants of health and ensure access to care, quality of care and continuity of care. The Department of Global Health and Social Medicine created the MMSc-GHD program to educate global leaders to use biosocial methods to design, implement and evaluate solutions to improve health care delivery.

The first year of the program focuses on developing familiarity with the biosocial approach to analysis. Students build knowledge in key disciplines, including leadership, ethics, policy, strategy and management. Using these principles and methodologies, students develop a

proposal for a mentored research project to be conducted during their second year. The MMSc-GHD program prepares mid-career professionals to effect change by learning how to build capacity and improve health delivery systems in resource-limited settings around the world.

MMSc-GHD research projects address problems related to health care access by identifying the issues present in a certain location and designing programs that respond to them. Supported by a faculty mentor who is an expert in their area of interest, each student conducts their research project at a chosen field site. They then return to campus to analyze their data and complete a thesis paper that not only describes their work but also contributes to the field of global health scholarship—and which ultimately aims to create a tangible impact in the community studied.

Fast Facts

Students have the opportunity to take courses across Harvard University's graduate schools

The program applies a biosocial lens to study challenges affecting access to and quality of health care, often with a focus on resource-limited communities

Alumni have continued to positions in academia, hospitals, NGOs and government agencies around the world

Our faculty lead global health research and implementation projects worldwide

MASTER OF MEDICAL SCIENCES IN IMMUNOLOGY (MMSc-IMM)

Harnessing the body's own powers to fight disease

Fast Facts

Students complete 64 credits: 32 from coursework, 32 from mentored research

28% of alumni attend PhD programs; 26% attend MD, DMD or MD/PhD programs

First-year curriculum comprises five required courses and two electives

Designed for those with a bachelor's degree and a strong background in biology, or those who already possess a medical degree

Immunology faculty are leaders in the field and valuable mentors

For most of human history, discovering a new therapy was a game of chance. It was only in the late 20th century that we started to design drugs rationally—primarily by translating scientific knowledge about the immune system into therapies. Today we are able to cure many cancers, neutralize most infectious diseases and improve clinical outcomes across nearly every class of disease.

Harvard Medical School's two-year, full-time MMSc-IMM program is one of the few research-based master's level programs in immunology in the U.S., immersing students in Harvard's unmatched research environment and providing them with a solid foundation in both basic and clinical immunology. Students build strong relationships

with peers and faculty members; they also benefit from a close-knit campus community and an extended network of researchers and medical professionals.

Over the course of the program, students gain the skills and knowledge needed to understand both the fundamentals of immunology as well to gain a deeper understanding of the immunological basis of disease.

An in-depth research project—comprising the entire second year of the program—is undertaken in collaboration with a faculty mentor. Students perform their research, analyze their data, and prepare a thesis that typically represents a significant research contribution in this exciting field.





MASTER OF MEDICAL SCIENCES IN MEDICAL EDUCATION (MMSc-MedEd)

Alleviating human suffering around the world begins with effective medical education

How should educators work to mold health professionals who will optimally meet the needs of patients and society? Improving health outcomes and mitigating human suffering will depend on the education we provide to the next generation of health professionals.

The Master of Medical Sciences in Medical Education is a rigorous two-year, research-focused program designed to foster the leaders who will steer curricular innovations, implement rigorous research and delineate sound policy that will guide health professions education for the future. The program explores curriculum design, assessment, educational theory, education technologies, learning design and qualitative and quantitative research methods.

The program is strengthened by collaborations and partnerships that span Harvard University. Harvard

Graduate School of Education provides enhanced options for elective coursework; students can also take elective courses at Harvard Business School, Harvard School of Public Health and the Harvard Kennedy School. Additional opportunities include:

- **The Harvard Macy Institute**, which connects global leaders in medical education
- **The Academy at HMS**, which enables students to network with a community of medical educators and offers programs such as monthly grand rounds and symposia

Applying lessons learned in class, students design a research proposal they will undertake in year two. Working closely with their faculty mentor, each student will design the project, carry it out, analyze the resulting data and prepare a thesis for publication, thus adding to the scholarship in the field.

Fast Facts

The program comprises 64 credits, including the 32-credit mentored research project

Students gain skills they can apply to any setting: academic institutions, teaching hospitals and more

The program is designed primarily for those with a doctoral degree in medicine or other health-related fields

The small program size allows students to craft a unique plan to achieve their learning goals

Students benefit from close, productive relationships with faculty and classmates

MASTER OF SCIENCE IN MEDIA, MEDICINE, AND HEALTH (MS-MMH)

Leveraging the power of creative media and storytelling to inform, inspire, and heal

Fast Facts

Fall semester:

Students learn the fundamentals of storytelling and social medicine, and conceive their Capstone project.

January intersession:

Students work with a mentor on an existing health campaign, learning how they're designed and implemented.

Spring semester:

Students delve more deeply into their Capstone project.

Capstone:

Students craft a public health intervention that reflects what they've learned.

While access to quality health care today is highly inequitable, access to the media is nearly ubiquitous. In an era in which information constantly battles misinformation, many people—especially those traditionally underserved by the health care system—are unsure what and whom to trust. The time has come to bring narrative arts and creative media into the conversation.

The Master of Science in Media, Medicine, and Health (MSMMH) is the first and only master's degree program in the U.S. to offer an evidence-based, multidisciplinary storytelling and arts-driven curriculum focused on health education and intervention. Specialists, writers and artists, current and future medical professionals—anyone with a desire to use narrative vehicles

to deliver health information more broadly—to make a difference in people's lives by combining art and science with the power and reach of the mass media.

Led by faculty directors Neal Baer, MD (whose television credits include ER, Law & Order SVU, and Designated Survivor) and Jason Silverstein, PhD (whose writings have appeared in The Atlantic, The Nation, The New York Times, and Slate), the MSMMH degree enables students to develop compelling creative outputs that could lead to better clinical outcomes for diverse communities of people, while at the same time providing remarkable networking opportunities with peers from many different disciplines.





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Harvard Medical School
Office for Graduate Education
TMEC 435
260 Longwood Avenue
Boston, MA. 02115

hms.harvard.edu/masters