



HARVARD MEDICAL SCHOOL



MDCCCCIII

# HARVARD MEDICAL SCHOOL





# What It Means

*to Be a Harvard Doctor*

## Innovating



### *to Be Prepared*

*Harvard doctors are prepared to function and excel in a rapidly changing world of medicine*

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## Educating



### *to Be Compassionate*

*Harvard doctors maintain lifelong commitments to the ideals of the medical profession*

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## Discovering



### *to Be Explorers*

*Harvard doctors conduct research that changes the nature of medicine*

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## Leading



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*Harvard doctors impact the world*

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# What It Means *to Be Prepared*

*Harvard Medical School's Department of Systems Biology (DSB) is one of the first department-level systems biology programs in the nation.*

What does it mean to be a Harvard doctor? A Harvard Medical School education will prepare you to excel in the rapidly changing landscape of modern medicine. It will do so through a curriculum grounded in the study of leading biomedical science and clinical experience, a rich diversity of degree program choices, and a history of innovation that continues to set the standard for excellence in medical education in the United States and around the world. Within these halls, you will experience the medical profession in all its dimensions. At HMS, you can pursue your individual interests, find your calling, and discover how you can change the fabric of medicine.

## The HMS Integrated Curriculum

Throughout its history, Harvard Medical School has influenced the design of medical school education. From Harvard University President Charles Eliot's 19th century reform—developing the concept of a medical school as we know it today—to the innovative Health Sciences and Technology Program in 1971 and the ground-breaking New Pathway curriculum of the 1980s, HMS has been in a continual process of growth and change.

In 2006, HMS implemented enhancements to its curriculum specifically designed to meet the needs of 21st century medicine. The HMS Integrated Curriculum builds on the strengths of both the New Pathway and the Health Sciences and Technology (HST) curricula by further integrating the clinical and basic sciences across the curriculum, developing new models for clinical education, and mentoring the engagement of students in in-depth scholarly experiences.

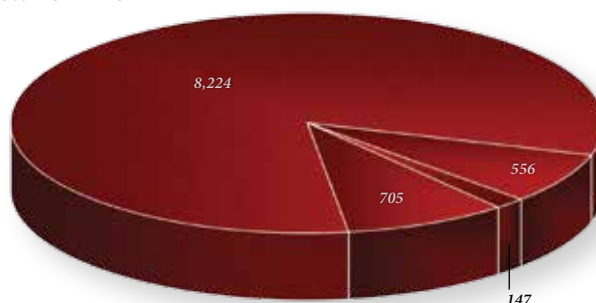
The curriculum begins in mid-August for all students with *Introduction to the Profession*, an intensive two-week course designed to introduce students to the profession, the practice of medicine, and the experiences that lie before them as they embark on the process of becoming physicians. Students spend years one and two focused on the basic biological and population sciences that underlie clinical medicine. In April of year two, New Pathway students transition from the classroom to the

clinical realm, and are joined by their HST classmates in years three and four.

In year three, individual clerkships in the major disciplines of medicine (medicine, surgery, pediatrics, obstetrics and gynecology, psychiatry, neurology, radiology) unify in a "Principal Clinical Experience," which provides opportunities for longitudinal experiences with patients and faculty members as well as an interdisciplinary curriculum that integrates the scientific and clinical aspects of important diseases. Throughout the four years of medical school, students work one-on-one with faculty members. In this vein, a capstone experience for our students is a several year, faculty mentored, in-depth scholarly experience culminating in a written work product. Such exploration of a topic in-depth allows students to participate with faculty in the excitement of discovery and scholarship. In the final year, students pursue special concentrations and participate in advanced elective clerkships. Students elect clerkships from our 17 affiliated institutions, and may participate in exchange clerkships with other institutions both domestic and international. The HMS Integrated Curriculum prepares graduates to function in an increasingly multicultural landscape undergoing radical scientific, social, economic, and technological transformation. HMS seeks to ready students for this new world by providing them with the ideal educational environment and carefully integrated global experience to foster their growth as clinicians, scholars, discoverers, and leaders.

**HMS Community Snapshot: 2011–2012**

705 Medical Students  
147 Dental Students  
556 Graduate Students  
8,224 Residents, Interns, and Postdoctoral Fellows



## HMS DEPARTMENTS

Ambulatory Care and Prevention  
Biological Chemistry and Molecular Pharmacology  
Cell Biology  
Genetics  
Health Care Policy  
Microbiology and Molecular Genetics  
Neurobiology  
Pathology  
Stem Cell & Regenerative Biology  
Social Medicine  
Systems Biology  
Hospital-based clinical departments in Anaesthesia, Dermatology, Medicine, Neurology, Obstetrics/Gynecology/Reproductive Biology, Ophthalmology, Orthopedic Surgery, Otolaryngology, Pathology, Pediatrics, Physical Medicine/Rehabilitation, Psychiatry, Radiology, Radiation Oncology, and Surgery

## HMS PROGRAM IN MEDICAL EDUCATION

### *M.D. Programs & Curricula*

New Pathway M.D.  
Health Sciences & Technology (HST) M.D.  
Five-Year Option  
M.D.-Ph.D. Program

### *Other Joint Degree Programs*

M.D./M.B.A.  
M.D./Master of Public Health  
M.D./Master of Public Policy

### *Other Degree Programs on HMS campus*

Division of Medical Sciences Ph.D.  
Harvard School of Dental Medicine  
Doctor of Dental Medicine  
Harvard School of Public Health  
Doctor of Public Health  
Master of Science  
Master of Public Health  
Doctor of Science

For more information on courses, faculty, and degree options, please visit:

<http://hms.harvard.edu/content/admissions>



# Innovating

DR. JEFFREY S. FLIER

Dean of the Faculty  
of Medicine

*Jeffrey S. Flier, Harvard's George C. Reisman Professor of Medicine, became the 21st Dean of the Faculty of Medicine at Harvard University in 2007. Dean Flier explains his vision for HMS in terms of graduating cutting-edge researchers and clinicians: "Investigation and generation of new knowledge are, alongside clinical medicine, a core element of the HMS ethos."*

*Indeed, Dean Flier is familiar with scientific breakthroughs. A leading researcher in molecular causes of diabetes and obesity, Flier's discoveries in leptin expression have fundamentally shaped the discourse of the field, with applications in industry.*

*"I have a track record of productive collaboration with industry in the conduct of metabolic research," Dean Flier explains, "and I'm very much interested in maximizing the translation of basic discoveries into clinical impact." Flier's honors include a five-year \$500,000 Unrestricted Metabolic Research Grant by Bristol-Myers Squibb.*

*Prior to becoming Dean, Dr. Flier spent 29 years on the Harvard faculty at Beth Israel Hospital and Beth Israel Deaconess Medical Center, where he served as Chief of the Diabetes Unit, Chief of the Endocrine Division, and Chief Academic Officer, responsible for research and academic programs. He has authored over 200 scholarly papers and reviews and has held many editorial positions, including the Editorial Boards of leading endocrinology journals and the American Journal of Medicine. He is currently on the Board of Consulting Editors of Science Magazine.*

*Regarding his vision for HMS, Dean Flier explains that "expertise as physicians is our bedrock goal. While some students may have outstanding research careers, others will have outstanding clinical careers, and yet others will blend research and clinical activity." The HMS program, Flier explains, "is flexible enough to prepare all of our students to excel."*

## Many Paths: A Diverse Medical Program

How to employ new information and technology, think on your feet, draw on a solid base of scientific knowledge, care for patients, continue learning—each path of the HMS medical program offers an education in these skills.

**New Pathway M.D. Program:** A tutorial environment defines the New Pathway Curriculum. For the first three and one-half semesters you'll learn in small group discussions analyzing patient cases to master fundamental medical concepts. Classmates become colleagues and teach each other. The New Pathway curriculum encourages taking responsibility for your own learning—your time in the library searching for answers is as important as your time studying biomedical sciences and medical procedures through the laboratories, conferences, and lectures that augment your tutorials.

### Health Sciences and Technology (HST)

**M.D. Program:** Combining the extensive resources of Harvard Medical School and Massachusetts Institute of Technology (MIT), the Health Sciences and Technology (HST) M.D. Program will prepare you for interdisciplinary research careers in academic medicine. Through a rigorous and quantitative curriculum, you'll

focus on biological, chemical, physical, and engineering sciences and collaborate with Harvard and MIT faculty on substantive, groundbreaking research. You can take courses at both Harvard Medical School and MIT, and will be part of a select group—only 30 students per year are admitted into HST.

**Clinical Education:** An extraordinary variety of courses are offered at HMS and its affiliated hospitals. Core clerkships are offered in the principal clinical specialties. All students complete clerkships in medicine, surgery, and women's and children's health (pediatrics and obstetrics/gynecology), and elective experiences can include more specialized clerkships such as hematology, emergency care, and dermatology; advanced pathophysiology courses in areas such as oncology and infectious diseases; and laboratory and field research.

**M.D.-Ph.D. Program:** The overall mission of the M.D.-Ph.D. program at Harvard Medical School is to train its students to lead the next generation of physician-scientists, with representation across a variety of clinical disciplines and research areas from basic and translational sciences bioengineering to the social sciences.



# Innovating

## ZACHARY SCOTT MORRIS

*A former Goldwater Scholar, Zachary Morris graduated from Ripon College with degrees in Biology and Chemistry. After Zach was accepted into the M.D.-Ph.D. program at HMS, he deferred his enrollment to spend two years at Oxford University as a Rhodes Scholar, earning Master's degrees in Medical Anthropology and the History of Science, Medicine, and Technology.*

*But medical school had been Zachary's goal since childhood. "With a fair bit of family history in cancer," he said, "I became interested in trying to develop cures rather than applying medical knowledge."*

*During his two undergraduate research fellowships at Argonne National Laboratory, Zachary examined structure-function relationships in photosynthetic bacterial membrane proteins. Today, his research focuses on the regulation of certain growth factor receptors at the cell membrane by another protein, the product of the NF2 tumor suppressor gene. Under the direction of Dr. Andrea I. McClatchey, Department of Pathology, Zachary is examining how mutation of the human NF2 tumor suppressor gives rise to the familial cancer syndrome, Neurofibromatosis type 2, which features the development of nervous system tumors and often leads to hearing loss.*

*"It was amazing to come to Harvard and interact with professors whose books I'd been reading at Oxford," Zach observes. "HMS offers phenomenal breadth of research expertise, with faculty at the cutting edge in virtually every area of science. The research community is huge, with more than 5,000 labs to choose from," he explains. "It's sometimes difficult to grasp how much is going on around here."*

*HMS's New Pathway curriculum offers morning lectures followed by tutorial learning. "Our tutorial system is similar to Oxford's," Zachary explains. "It's a case-based, interactive curriculum in a highly collaborative and interactive environment. Students freely e-mail notes and study guides—so everyone reaches a very high level of medical knowledge."*

# Innovating

## DR. NANCY ORIOL

*Associate Professor of Anesthesia,  
Associate Dean for Student Affairs,  
Director of Faculty Development  
for the Department of Anesthesia  
and Critical Care at Beth Israel  
Deaconess Medical Center*

*“What is truly unique about Harvard is the incredible diversity of experiences and perspectives our students bring to the world of medicine. It’s not unusual to find bankers, Olympic athletes, published authors, Peace Corp volunteers, Jesuit priests, and watercolor artists, all in the same class,” says Dr. Nancy Oriol. “You find yourself part of an astonishingly broad community of talent and passion.”*

*Dr. Oriol is a renowned anesthesiologist who has been part of the HMS faculty for more than twenty-five years. She is an innovator whose medical breakthroughs range from inventing the “walking epidural”—a type of labor pain relief that does not interfere with the progress of labor—to creating an ingenious device for newborn resuscitation. Deeply committed to community service, she is the founder of The Family Van—a mobile health program in Boston that has served as a model for mobile health outreach in cities across the nation.*

*But what she is most passionate about is teaching. “We believe that medicine is a language and the only way to become fluent in it is by using it—by sharing your knowledge with those around you,” says this recipient of numerous HMS teaching awards.*

*“Collaboration, teamwork, and group discussions allow our students to understand different worldviews. It teaches them to communicate with—and respect—difference, and to become more compassionate. Those are the qualities that distinguish great physicians.”*



[http://hms.harvard.edu/  
content/admissions](http://hms.harvard.edu/content/admissions)



*HMS tutorials help students become self-directed, lifelong learners.*

## Teaching and Learning on an Unsurpassed Scale

You'll learn from them in small group tutorials, research collaborations, in lectures and seminars and on rounds—in many places on this campus. With more than 10,000 faculty members drawn from the basic science departments as well as our affiliated hospitals and institutions, Harvard Medical School provides a teaching and learning environment of tremendous breadth and depth. Choose any medical specialty or research field and it's more than likely you'll find an HMS faculty member in it. Further, they serve as mentors and advisors in our innovative **Academic Societies**—which break the student population into five small communities. Your Society will shape your course of study, provide a home base and structure of support, and guide you from orientation to securing the residency of your choice.

## Honors and Awards

**Jack Szostak**, a professor and member of the Department of Genetics at HMS and the Department of Molecular Biology at MGH, received the Nobel Prize in Physiology or Medicine, along with Elizabeth Blackburn and Carol Greider, for the discovery of how chromosomes are protected by telomeres and the enzyme telomerase.

**Carol Nadelson**, HMS professor of psychiatry at Brigham and Women's Hospital accepted the Foundation for the History of Women in Medicine's 2009 Alma Dea Morani, MD, Renaissance Woman Award in honor of her pioneering work in women's health and mental health.

**Paul Farmer**, the Maude and Lillian Presley Professor of Global Health and Social Medicine at HMS, was appointed deputy special envoy by former president Bill Clinton, the United Nations Special Envoy to Haiti. Farmer is a co-founder of Partners in Health, the largest healthcare provider in Haiti.

**Jonathan Beckwith**, the American Cancer Society professor of microbiology and molecular genetics at HMS, received both the 2009 Selman A. Waksman Award in Microbiology for excellence in that field, and the 21st Annual Edinburgh Medal, for significant contributions to the understanding and well-being of humanity.

## THE ACADEMY

A body committed to training and rewarding outstanding teachers, The Academy at Harvard Medical School reinforces the learning environment by providing resources to enhance the teaching role of faculty and innovation in medical education.

## HMS Faculty by the Numbers



Approximately half of the M.D. student body pursues a joint degree program or enrichment activity that not only takes them beyond the traditional four years of study, but enlarges the scope of their medical education.



*At Beth Israel Deaconess Medical Center, Dr. Elvira Lang in Interventional Radiology (right) guides HMS student Kerunne Ketlogetswe (left) in preparing to insert a PICC Line.*

## What It N *to Be Compassionate*

The Department of Global Health and Social Medicine applies social science and humanities research to constantly improve the practice of medicine, and the development of healthcare policies locally and worldwide, and is the central structure to help organize global health activities, especially medical education experiences, at Harvard Medical School.

More information about the Department of Global Health and Social Medicine is available on the Web at <http://ghsm.hms.harvard.edu/>

Compassion—it may be the most vital aspect of patient care. A Harvard doctor is simply one who cares. Someone who brings empathy to the treatment of patients in every kind of community. A medical professional who seeks to relieve human suffering through intense research, not for the glory but for the result. An HMS education will expose you to the best of theory and practice, immerse you early on in patient experience, and connect you to unsurpassed resources for clinical experience and research opportunities. A commitment to serving humanity can be felt everywhere on this campus—it is an experience in which you will educate and be educated in return.

## Varieties of Patient Care Experience at HMS

### Affiliated Hospitals and Institutions:

Our substantial network of clinical affiliates offers you considerable breadth and depth and nearly unlimited opportunities for clinical learning in 17 leading national hospitals, health care facilities, and health institutes. Among them you'll uncover a tremendous diversity of medical experiences, courses, and specialized clerkships. These experiences not only provide an "on the wards" education in disease and treatment, but will immerse you in the human relations so central to providing quality care.

**Patient-Doctor:** Students learn how to take thorough patient histories and perform physical examinations through the three-year Patient-Doctor course designed to enhance their clinical expertise and add an experiential dimension to their pre-clinical preparation. In videotaped sessions, you will evaluate your progress, gain exam skills, and begin your evolution to the clinical years.

**Clinical Clerkships:** HMS third- and fourth-year students come together for an education in direct patient care through clinical clerkships. Your study of pathological principles will come to life, and real people will replace textbook theory and case study. Learning by doing in each of the major fields of medicine will offer invaluable lessons on becoming an effective practitioner.

### UNLIMITED OPPORTUNITIES: HMS AFFILIATED HOSPITALS

Beth Israel Deaconess Medical Center

Brigham and Women's Hospital

Cambridge Health Alliance

Children's Hospital Boston

The CBR Institute for Biomedical Research

The Dana-Farber Cancer Institute

The Forsyth Institute

Harvard Pilgrim Health Care

Hebrew SeniorLife

Joslin Diabetes Center

Judge Baker Children's Center

Massachusetts Eye and Ear Infirmary

Massachusetts General Hospital

McLean Hospital

Mount Auburn Hospital

Schepens Eye Research Institute

Spaulding Rehabilitation Hospital

VA Boston Healthcare System

More information about Harvard's affiliated teaching hospitals is available on the Web at <http://hms.harvard.edu>

For more than a decade, five of the top 10 independent hospitals funded by the National Institutes of Health (NIH) have been Harvard affiliates.



*"Stan," a computer-controlled mannequin used as a patient simulator, recreates the clinical experience for students.*

# Educating

RANDALL KING '97,  
M.D., PH.D.

Associate Professor of Cell Biology  
Department of Cell Biology,  
Harvard Medical School

*Medical education is transformed when faculty and students not only find opportunity to innovate with one another, but also find the resources they need to ensure their work goes on to make a difference in the world through development and commercialization.*

*Just ask Dr. Randall King, who, along with collaborators Dr. Daniel Finley (HMS professor of cell biology) and Byung-Hoon Lee (an HMS research fellow) were recently able to tap a special gap-funding program through Harvard's Office of Technology Development in order to improve the uptake and potency of a compound that could help degrade proteins linked with Alzheimer's disease.*

*Called the Accelerator Fund, this program is designed to support early innovations, including enabling key medicinal work to be done, and helping devise effective intellectual property, marketing, and licensing strategies.*

*For Dr. King and his team, the result was a compound ten times more potent than their previous compound as well as a major agreement with a biotech company. "Pharmaceutical companies have a weak appetite for risk," explains Dr. King, "and this work has made the innovation more attractive to potential industry partners."*

## Enrichment and Global Awareness

Our long-standing commitment to service and research will move you beyond the traditional borders of the medical profession and out into communities as close as Boston and as far away as Vietnam. From community health centers and elementary schools to underserved populations in remote regions of the world, HMS students are creating partnerships, conducting research, rebuilding neighborhoods, and serving those most in need. What can you do? You can travel to South Africa to work with AIDS patients, put together swimming programs for asthmatics in Chinatown, or spend time with underprivileged kids in Appalachia. There are no limits to the ways in which you can serve the world at HMS.

**Service Learning Program**—Learn about community health while bringing health care and research skills to urban streets, community health centers, schools, and social service agencies in Greater Boston.

**International Program**—Carry out research or a service project abroad for a summer or a year. In your fourth year, participate in a clinical training exchange program in Latin America, Asia, or Africa.

**Student Research Program**—Carry out basic science or clinical research in top laboratories and hospitals and gain important mentoring in your field of choice.

### HMS STUDENT MEDICAL SERVICE PROJECTS

- Publishing a paper about problems in Down Syndrome diagnosis that leads to a new Senate bill to increase federal funding to solve the problem.
- Analyzing Hantavirus outbreaks on a Navajo reservation.
- Developing a program with the International Organization for Migration in Haiti for patient transfer and assisted discharge from overcrowded Port au Prince hospitals
- Establishing formal connections between a rural clinic in Honduras and national experts and resources in infectious disease and tropical medicine in the capital city of Tegucigalpa
- In a rural area of Nicaragua with no access to mammography, promoting awareness and early detection of breast disease by training community leaders and rural women on a rudimentary breast health module, covering symptoms, risk factors, and the correct performance of a breast self-examination (BSE). Suspected abnormalities were referred to the regional MINSA hospital for follow-up.



[http://hms.harvard.edu/  
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# Educating

## DR. DAVID URION

*Associate Professor of Neurology/  
Director, Division of Service Learning,  
Children's Hospital Boston*

*Doctors, by their very nature, want to help people. But Dr. David Urien follows Harvard's philosophy of doing something that will have a lasting impact on all of humanity. As director of the Division of Service Learning, Dr. Urien helps students make connections between learning and doing through service projects and enrichment programs.*

*"Harvard understands the social responsibilities that leadership and medicine entail—and doesn't just give it lip service. We offer students unparalleled opportunities to make a real difference domestically, nationally, and internationally because of the infinite number of connections that we have.*

*"Most of our students come with impressive backgrounds in community projects. At Harvard, they get to take that interest in the direction of service learning work. An ongoing project involves HIV education and assessment within the school, public health, and medical school realms in Vietnam. We have had medical students do assessments of province-level secondary hospitals for the establishment of AIDS outreach programs. We've had people go to Cuba and work in an HIV hospital doing narrative history collection. In terms of domestic projects, one person established an after-school training program for children with asthma in the Chinese-American community. We've had people provide dance and nutrition programs working with young women's health and esteem. The opportunities are as diverse as the students' interests."*



[http://hms.harvard.edu/  
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## HMS STUDENT GROUPS

Alternative Spring Break  
American Medical Student Association  
American Medical Women's Association  
*Art & Literature Magazine*  
Asian Health Association  
Black Health Association  
Christian Medical and Dental Society  
Coffee House  
Dermatology Interest Group  
Emergency Medicine Club  
Family Medicine/Primary Care Interest Group  
First-year Educational Adventure Trip (FEAT)  
First-year Urban Neighborhood Campaign (FUNC)  
Harvard Health Caucus  
Harvard International Health Organization  
Health and the Environment  
HMS/HSDM Athletics Club  
HMS/HSDM Soccer Club  
HMS Student Council  
Holistic Medicine  
Kinsey 2-6ers (gay, lesbian, and bisexual student association)  
LIFE Committee (students organizing activities to welcome new students)  
Life Drawing  
Longwood Players  
Maimonides Society (Jewish student association)  
Massachusetts Medical Society  
Medical Students for Choice  
Medical Students of Las Americas (MeSLA-Latino student association)  
Medical Student Section of the American Medical Association  
Multicultural Student Alliance  
Music Society  
Native American Health Organization  
Physicians for Human Rights/Amnesty  
Physicians for Social Responsibility  
Religion & Spirituality  
Second Year Show  
Social Committee  
Social Hour  
Society Olympics  
Student Association of Medically Oriented South Asians (SAMOSA)  
Student Council Community Service Organization  
Student Interest Group in Neurology  
Student National Medical Association  
Students for Global Health and Justice  
Surgical Interest Group

## A Change Community

Life beyond the lecture halls and labs at HMS offers a stimulating mix of people and opportunities. You'll live among an active and diverse community, one comprised of students from a variety of ethnic, sociocultural, and economic backgrounds. Harvard Medical School is also home to students with a fascinating mix of intellectual and scientific interests, creative talents, and passionate pursuits. Among your classmates, you might meet a student who is researching a cure for kidney disease, another who is pursuing a black belt in kung fu, and another with a degree in electrical engineering. HMS students are varied and energetic people who commit 100 percent of themselves equally to their academic and social pursuits. They are world-changers—no matter what they do.

## Historic Diversity

For more than 30 years, HMS has been successfully building a campus community that reflects the changing face of America. Harvard's commitment to diversity is not only reflected in the variety of institutions from which students are accepted, but also in the ethnic and economic backgrounds of the student body. In 1969, HMS established the Office of Recruitment and Multicultural Affairs to recruit and provide supportive services to individuals from groups underrepresented in medicine. In the years since, HMS has graduated over 1,000 physicians from minority groups underrepresented in medicine, and there are over 171 underrepresented minority students currently enrolled.

To learn more about the Office of Recruitment and Multicultural Affairs, please visit: [www.hms.harvard.edu/orma](http://www.hms.harvard.edu/orma)

## HMS Student Services

HMS offers a full array of student services to meet your personal and health needs, including a Student Health Plan that provides coverage for hospitalization and care on and off the HMS campus, dental insurance, disability insurance, and services for students with disabilities.

## Living at HMS: Vanderbilt Hall

You can take advantage of the convenience of living on the HMS campus by booking a room in Vanderbilt Hall, a residence complex next to the Medical School. The hall provides a comfortable atmosphere in which to forge friendships with your classmates, study, and relax. You'll find:

- Rooms for approximately 320 men and women
- A library and study lounges
- An athletic center with full-size gym, tennis court, racquetball courts, squash courts, weight room, and exercise and locker rooms
- Single rooms with connections for telephone and Web access
- A darkroom, music rooms, and a computer lab





## Boston

Harvard Medical School's prime location in the Longwood Medical Area of Boston will put you in touch with one of the country's most distinctive cities. Big enough to be cosmopolitan and interesting, yet small enough to be manageable, Boston offers a charm and character all its own. From the stately brick townhouses of Beacon Hill to Fenway Park, from the harbor where the American Revolution witnessed some of its most famous moments to the Common and Public Gar-

den, you'll discover a rich tapestry of people, history, cultural life, and entertainment—and it's all less than a mile from the HMS campus. Boston is also an ideal place for students: it houses many of the most highly regarded colleges, universities, and institutes in the U.S.—a wealth of academic resources influenced by Harvard's long historical reach. In this colorful city, Harvard medical students find abundant personal and professional opportunities that shape their lives.

### TO DO

- Explore over 100 years of Red Sox history with an inside look at Fenway Park, the nation's oldest ballpark.
- Discover Boston's rich reading culture with a tour of the distinguished Boston Public Library, the nation's first public library—and then peruse the city's numerous bookstores.
- Stroll through Public Garden, a horticultural "museum" and the nation's oldest botanical garden.
- Cheer on the Celtics or the Bruins at The TD Banknorth Garden, and check out the Sports Museum of New England while you're there.
- Step back in time along Boston's Freedom Trail, a 2.5-mile path connecting the city's historic sights from Boston Common to the Bunker Hill Monument, and with a stroll through the Beacon Hill neighborhood.
- Hop aboard the Old Town Trolley or Beantown Trolley for a narrated journey that takes in over 100 interesting sights.
- Delve into the legacy of our 35th president at the John F. Kennedy Library and Museum.

### A SAMPLING OF ACADEMIC INSTITUTIONS

Boston College  
Boston University  
Brandeis University  
Harvard University  
Massachusetts Institute of Technology  
Northeastern University  
Tufts University  
Wellesley College

### A SAMPLING OF CULTURAL INSTITUTIONS

Boston Symphony Orchestra  
Institute of Contemporary Art  
Museum of Afro-American History  
Museum of Fine Arts  
Museum of Science  
New England Aquarium

### PROFESSIONAL SPORTS

Bruins  
Celtics  
Patriots  
Red Sox  
Revolution

### DAY TRIPS

Historic Salem, site of the witchcraft trials of 1692  
Walden Pond—Thoreau's Inspiration  
Skiing and winter sports in the Berkshires and White Mountains  
North & South Shore Seacoast Towns—Maritime and Whaling History Sites  
Cape Cod, Nantucket, & Martha's Vineyard



*With its revealing glass façade and open-plan laboratories, Harvard Medical School's New Research Building (NRB) provides an elegant, state-of-the-art space for researchers exploring the genetic causes and cures of human illnesses.*

# What It N *to Be Explorers*

As the recipient of a five year Clinical and Transnational Science Award from the National Institutes of Health (CTSC), Harvard belongs to a select network of CTSC Centers based at academic medical centers nationwide. This unique grant is helping bond together a bench-to-bedside translational and clinical research system that enables Harvard's entire medical and science community to be larger and more effective than the sum of its parts.

A Harvard doctor makes significant contributions to biomedical science. You'll explore new scientific frontiers by participating in a legacy of research that resonates on a global scale. Harvard Medical School has been home to 15 Nobel Laureates and many nationally and internationally recognized researchers and medical scholars. Here, you will collaborate with some of the leading medical scientists in the world who teach and demonstrate not only state-of-the-art research techniques, but a passionate dedication to improving human life through scientific discovery.

## Research at Harvard Medical School: A History of Achievement

Think of it as a city of research—turn nearly any corner on the HMS campus and you'll encounter a cutting-edge research facility. Multiply that effect by our numerous surrounding hospitals and research centers, and the impact enlarges. Drawing on HMS faculty scholars and prominent medical researchers from all over the world, HMS has a tremendous history of cultivating research that has alleviated human suffering caused by disease. As a consequence of

what happens at HMS, people all over the world live healthier lives. The list of HMS breakthroughs is astonishing, among them:

- Introduction of insulin into the United States
- Invention of the iron lung
- Application of tissue culture methods to develop a polio virus to be used as the key ingredient of the polio vaccine
- Mapping the visual system of the brain
- Creation of the external cardiac pacemaker
- Development of artificial skin
- First successful kidney transplant
- Discovery of the gene that causes Duchenne Muscular Dystrophy

# Means



*The 525,000-square-foot New Research Building is dedicated to the acceleration of medical progress by aligning scientists from many disciplines in one shared state-of-the-art research facility.*

**Research opportunities** that will change medicine await you in the Quadrangle, at all of the Harvard-affiliated teaching hospitals, and at Harvard University and MIT. Harvard medical students often find their research experiences among their most important, regardless of whether they pursue a life in the laboratory or in practice—you will as well. Understanding how to ask a question and how to generate an answer will form one component of your lifelong commitment to the health sciences. Another will be a useful and highly applicable understanding of the scientific basis of medicine.

### HMS CENTERS, DIVISIONS, AND INSTITUTES

The Armenise-Harvard Foundation  
Dana-Farber/Harvard Cancer Center  
Harvard Center for Eating Disorders  
Harvard Center for Neurodegeneration and Repair  
Harvard Clinical Research Institute  
Harvard Division of Health Care Policy Research and Education  
Harvard Division of Nutrition  
Harvard Institute of Chemistry and Cell Biology  
Harvard Institute of Mind/Brain/Behavior  
Harvard Institute of Proteomics  
Harvard Institute of Psychiatric Epidemiology and Genetics  
Harvard Mahoney Neuroscience Institute  
Harvard Medical International Programs running in over 30 countries  
Harvard-MIT Division of Health Sciences and Technology  
Harvard Program on Head and Neck Oncology  
HMS Center for Biochemical and Biophysical Sciences and Medicine  
HMS Center of Excellence in Minority Health  
HMS Center of Excellence in Women's Health  
HMS Center for Health and the Global Environment  
HMS Center for Hereditary Deafness  
HMS Center for Mental Health and Media  
HMS Center for Neurofibromatosis and Allied Disorders  
HMS Center for Palliative Care  
HMS Division on Addictions  
HMS Division on Aging  
HMS Division of AIDS  
HMS Division of Emergency Medicine  
HMS Division of Medical Ethics  
HMS Division of Primary Care  
HMS Division for Research and Education in Complementary and Integrative Medical Therapies  
HMS Division of Service Learning  
HMS Skin Disease Research Center  
HMS Division of Sleep Medicine  
HMS Institute of Human Genetics  
HSDM and HMS Center for Craniofacial Tissue Engineering  
Juvenile Diabetes Research Foundation Center for Islet Cell Transplantation at HMS  
MIT/HMS Center for Magnetic Resonance

# Discovering

## **DR. ALVIN POUSSAINT**

*Professor of Psychiatry, Faculty  
Associate Dean for Student Affairs,  
Director of the Office of Recruitment  
and Multicultural Affairs,  
Judge Baker Children's Center*

*A familiar figure on campus since 1969, Professor of Psychiatry Dr. Alvin Poussaint has played a leading role in increasing parental and public awareness about the harmful effects of the increasingly sophisticated commercial exploitation of young children via television. Over the years, in between teaching, writing widely cited articles in medical and lay journals, and consulting on issues of adult and child psychology at the medical institutions affiliated with HMS as well as in public forums like The Oprah Winfrey Show, Dr. Poussaint has also served in a variety of administrative roles at Harvard Medical School*

*As the current Faculty Associate Dean for Student Affairs and the Director of the Office of Recruitment and Multicultural Affairs, he is passionate about ensuring that HMS continues to offer its students a warm and highly supportive educational environment.*

*"Be it our flexible and innovative curriculum or tutoring, counseling, or other student services that we offer, Harvard Medical School offers individual attention, and a world of resources, to every single student. It is a place where you can pick up the phone, call up Nobel Prize winners, and fix up an appointment to talk to them about your own professional goals. No matter what your interests are, you'll be able to collaborate with faculty who are pioneers in their fields and who really care about you and your experience at HMS. We may be one of the world's leading medical research institutions, but we are—first and foremost—a medical school."*



[http://hms.harvard.edu/  
content/admissions](http://hms.harvard.edu/content/admissions)



# Discovering

**GAURAV DAS GAIHA,  
PH.D.**

Harvard-MIT Health  
Sciences and Technology  
(HST) Medical Sciences  
M.D. Program

## Recent Faculty and Student Research at HMS

### Faculty

- The discovery of a progressive correlation between brain function and size may lead to a control or cure for schizophrenia.
- The sequencing of protein from a 68-million-year-old dinosaur proves it remains possible beyond one million years, and reveals a genetic connection between the extinct reptiles and birds.
- The counterintuitive discovery that proper drug combinations can turn bacteria's resistance against itself, offering new avenues in drug research.
- Research indicating compounds (such as red wine's resveratrol) that increase the life-span of yeast and fruit flies may prevent the health-threatening effects of obesity in mammals.
- Experiments indicating that repairing deficiencies in cancer cells can improve the effectiveness of existing treatments for brain tumors.
- The discovery that the VEGFR-3 protein is, in fact, critical to prevention of vascular growth on the cornea—suggesting new ways to fight certain corneal diseases and cancer.

### Students

- Researching the effect of tau protein on the brain in hopes of inhibiting diseases such as Alzheimer's.
- The search for neurotransmitters that contribute to circadian sleep patterns, and what involvement they may have with daytime drowsiness.
- Studying the effectiveness of "pulsed dye" laser techniques in the treatment of otherwise inoperable cancer tumors.
- The discovery of an enzyme insects use to endow themselves with drug properties may help scientists develop new and better drugs from other organisms.
- Fulbright study of an oppressed Costa Rican population group led to a World Bank grant to provide basic medical care.
- Helped to discover several enzymes; one of which is prevalent in high-risk prostate cancer patients, another, when mutated, indicates the severity of mental retardation.

While beginning experiments as an undergraduate biochemistry major at the University of Illinois-Chicago, Gaurav Gaiha "came to an important realization." He recalls, "Science was no longer the trite memorization of facts. Instead, it transformed into a challenging thought process that required knowledge, creativity and tenacity." Gaurav decided to pursue an M.D.-Ph.D. and began by researching novel HIV therapies while earning his Ph.D. at Oxford as a Clarendon Scholar.

After Oxford, Gaurav enrolled in the Medical Sciences M.D. division of the Harvard-MIT Health Sciences and Technology (HST) Program. "The biggest draw to Harvard was the HST Program," Gaurav says. "Being part of HST, I'm able to work at any lab at Harvard or MIT—and the curriculum teaches us how to integrate science and engineering with medicine."

Gaurav's HST thesis project is entitled "Characterization of HIV-specific Cytotoxic T Lymphocytes with Supernormal Killing Activity through a Functional Genomic Screen." Working with researchers at Harvard, MIT, and Massachusetts General Hospital, Gaurav explains that "the project pulls together cutting-edge technology with unique patient samples. The data obtained from this project could potentially be a new frontier in understanding the biology of CTLs in HIV infection. Ultimately, we hope that this new insight will aid in the continued development of novel T cell-based vaccines."



[http://hms.harvard.edu/  
content/admissions](http://hms.harvard.edu/content/admissions)

With nine basic and social science departments housed in the HMS Quadrangle, 50 clinical departments in our 17 teaching hospitals and other affiliates, Ph.D. research training programs offered through the Division of Medical Sciences, and faculty who conduct research in a score of locations around Boston, Harvard Medical School provides unsurpassed research opportunities.



David E. Cohen, M.D., Ph.D.  
Associate Professor of Medicine and Health Sciences and Technology and Co-Director of the Harvard-MIT Division of Health Sciences and Technology on the steps of Brigham and Women's Hospital, one of HMS' 17 affiliated institutions.

## Designed for an Optimal Medical Education: HMS Facilities

Extensive, in-depth medical facilities on a classical campus, the HMS research environment offers a substantial range of well-equipped facilities for teaching and research, among them:

### *Tosteson Medical Education Center (TMEC)*

- Houses most HMS classrooms and the five Academic Societies
- Fitted for digital and audiovisual technologies
- Case Method Room—interactive tiered classroom seating 80 students
- Student Computing Center
- Nine clinical examination rooms and clinical skills lab

### *Francis A. Countway Library*

- One of the largest collections of biomedical books in the U.S. and a world-renowned historical collection
- The Countway Digital Library provides access to 149 databases for online services, over 10,000 electronic journals, and 1,114 electronic textbooks
- Study areas with network access
- Volumes: 695,749  
Monographs: 213,328  
Journal Volumes: 482,421  
Rare books: 212,083

### *Warren Alpert Building*

- Houses departments of neurobiology and microbiology and the Center for Blood Research

### *New Research Building (NRB)*

- Houses departments of genetics and pathology
- The Joseph Martin Conference Center

### *The Laboratory for Human Reproduction and Reproductive Biology (LHRRB) Building*

- Houses investigators from the departments of biological chemistry and molecular pharmacology, and cell biology

### *The Seeley G. Mudd Building*

- Provides expanded space for biomedical research programs

### *The Harvard Institutes of Medicine*

- Inter-institutional biomedical research complex for HMS, Beth Israel Deaconess Medical Center, and Brigham and Women's Hospital

### *The New England Regional Primate Research Center*

- Located in Southborough, Massachusetts, a 140-acre tract sponsored by the National Institutes of Health

## Connecting with HMS Technology

During a recent accreditation review, the visiting team cited HMS's information technology and infrastructure for simulation and course entry as "cutting edge." It's easy to see why. You'll learn with the help of a seamless combination of hardware and software that enhances MyCourses, our virtual curriculum. Designed to provide multimedia resources that foster student and faculty interaction, MyCourses—along with 50-inch, high-definition plasma display screens—enables the tutorial process and provides access to a wide range of supplemental learning materials, such as microscopy slides, patient videos, and articles from the *New England Journal of Medicine*. You can also download files from the Web, create your own personal Web page and storage area, and coauthor complex documents with HMS faculty.

## 17 AFFILIATED HOSPITALS

### ***Beth Israel Deaconess Medical Center***

Renowned for excellence in surgery (including general, cardiovascular, thoracic, gastrointestinal, solid organ transplant, and vascular surgery), Beth Israel Deaconess Medical Center is also known for treatment of cardiac conditions, cancer, and pulmonary and thoracic disorders, and for expertise in neurosciences, gastroenterology and liver disease, obstetrics and women's health, podiatry, and emergency and trauma medicine.

### ***Brigham and Women's Hospital***

Brigham and Women's Hospital is internationally known for its treatment of complex disorders in areas such as cardiac care, cancer treatment, neurosciences, orthopedics and arthritis, and women's health, as well as offering outstanding primary care services and the largest obstetrical program in Massachusetts.

### ***Cambridge Health Alliance***

Cambridge Hospital is one of the founding members of the Cambridge Health Alliance, a unique model that incorporates public health, clinical care, academics, and research. It offers a wide variety of services including medical specialties, surgical specialties, obstetrics, and primary care for all ages.

### ***Children's Hospital Boston***

As the largest pediatric medical center in the United States, Children's offers a complete range of health care services for children. Out of its more than 100 outpatient clinics, those for epilepsy, urological disorders, cerebral palsy, sports medicine, and cystic fibrosis are among the world's largest. The CHB Program in Cellular and Molecular Medicine forms the Immune Disease Institute.

### ***The Dana-Farber Cancer Institute***

Dana-Farber Cancer Institute is a founding member of the Dana-Farber/Harvard Cancer Center (DF/HCC), a federally designated comprehensive cancer center, as well as a federally designated Center for AIDS research. Providing advanced training in cancer treatment and research for an international faculty, the Institute conducts community-based programs in cancer prevention, detection, and control throughout New England.

### ***The Forsyth Institute***

As a collective community of educators, scientists, support staff, trustees, graduates, and friends, the Forsyth Institute has become the preeminent

institution devoted to the advancement and dissemination of knowledge in oral and craniofacial science and its relation to systemic health and well being.

### ***Harvard Pilgrim Health Care***

In 1992, Harvard Medical School and Harvard Pilgrim Health Care combined resources to form the Department of Ambulatory Care and Prevention, distinguishing Harvard Pilgrim Health Care as New England's first teaching and research health maintenance organization.

### ***Hebrew SeniorLife (HSL)***

Boston-based Hebrew SeniorLife (HSL) is a 100+ year-old organization committed to maximizing the quality of older adults' lives through an integrated network of housing, health care, research, and education programs.

### ***Joslin Diabetes Center***

Joslin Diabetes Center is an internationally recognized diabetes treatment, research, and educational institution. Some of the most important improvements in diabetes care—including treatments for diabetes in pregnancy, the development of laser surgery to treat diabetic eye disease, and the identification of markers for "pre-diabetes"—were developed at Joslin.

### ***Judge Baker Children's Center***

Judge Baker Children's Center is dedicated to improving the lives of children whose emotional and behavioral problems threaten to limit their potential. The Center attracts some of the foremost experts in the fields of developmental psychology, education, and child mental health.

### ***Massachusetts Eye and Ear Infirmary***

Massachusetts Eye and Ear Infirmary (MEEI) is a specialty hospital providing outstanding patient care for disorders of the eye, ear, nose, throat, head, and neck. Founded in 1824, MEEI is an international leader in ophthalmology and otolaryngology research.

### ***Massachusetts General Hospital***

Founded in 1811, Massachusetts General Hospital is the third oldest general hospital in the United States and the oldest and largest in New England. The 875-bed, world-renowned medical center offers sophisticated diagnostic and therapeutic care in virtually every specialty and subspecialty of medicine and surgery.

### ***McLean Hospital***

The first psychiatric institution in New England, McLean Hospital is a world



leader in the treatment of mental illness and chemical dependency, research into the cause of mental illness, and the training of generations of mental health care providers. It maintains the largest program of research in neuroscience and psychiatry of any private psychiatric hospital in the United States.

### ***Mount Auburn Hospital***

Mount Auburn Hospital was incorporated in 1871 as the first hospital in Cambridge, Massachusetts. With a mission to improve the health of the residents of Cambridge and the surrounding communities, Mount Auburn Hospital is dedicated to delivering primary and specialty health care services in a personable, convenient, and compassionate manner.

### ***The Schepens Eye Research Institute***

The Schepens Eye Research Institute is the largest independent eye research institute in America. Located in Boston, Massachusetts, the Institute was founded in 1950 by famed retinal surgeon Charles L. Schepens.

### ***Spaulding Rehabilitation Hospital***

Spaulding Rehabilitation Hospital is one of the largest rehabilitation facilities in the U.S., providing comprehensive rehabilitation and complex medical management services for patients recovering from a wide variety of disorders.

### ***Veteran Affairs Boston Healthcare System***

The largest consolidated VA facility in New England, the VA Boston Healthcare System encompasses three main campuses and six outpatient clinics within a 40-mile radius of the greater Boston area. The combined facility has 392 acute hospital beds, 120 nursing home beds, and 70 domiciliary beds for homeless veterans.



# What It Means

## *to Be Visionary*

### HMS

HMS students perform extremely well on NBME Parts I and II. HMS graduates obtain residency positions at Boston's and the country's most prestigious hospitals and health care institutions.

transforms students into leaders who make significant contributions to the practice, science, and history of medicine. Your four years at Harvard Medical School will empower you to join this tradition and ensure you have what it takes to become an important part of it. In accepting the responsibility to lead, you will contribute to the history of visionary accomplishments realized through the lives of HMS graduates and join a long list of innovators, discoverers, educators, and leaders.



*Like many HMS faculty, Dr. Beverly Woo, Associate Professor of Medicine, Brigham and Women's Hospital, and Associate Master of the Francis Weld Peabody Society, gives much of her time to students.*

# Means

## *Research at Harvard : Transforming Medicine*

HMS produces national and global leaders in medicine and biomedical science, public policy and health care administration, medical education, and specialists in numerous medical fields. The long list of leading physicians and scientists among HMS alumni is considerable, ranging from Harvey Cushing, the

father of modern neurosurgery, to Dr. David Kessler, former head of the FDA. From the beginning, the Medical School has drawn the most gifted students from across the country and the world, many of whom demonstrate a strong desire for and experience in leadership early in the application process.



*Paul Farmer, newly named Chair of the Department of Global Health and Social Medicine, leads efforts to advance teaching and research in global health equity, linking students, medical residents and faculty to service programs in some of the poorest parts of the world.*

## **SOME HMS NOBEL LAUREATES**

**Jack Szostak, 2009, Physiology or Medicine**  
Discovered how chromosomes are protected by telomeres and the enzyme telomerase (with Elizabeth Blackburn of UC San Francisco and Carol Greider of Johns Hopkins University)

**Linda Buck,\* 2004, Medicine**  
Research on the olfactory system, explaining the sense of smell (with Richard Axel, Columbia University)

**Joseph E. Murray, 1990, Medicine**  
Developed new procedures for organ transplant (with E. Donnall Thomas, formerly of the University of Washington)

**Bernard Lown, Herbert Abrams, Eric Chivian, and James Muller, 1985, Peace**  
Cofounders, with Evgueni Chazov, Leonid Ilyin, and Mikhail Kuzin from the Soviet Union, of the International Physicians for the Prevention of Nuclear War

**David Hubel and Torsten Wiesel, 1981, Medicine**  
Research on information-processing in the visual system

**Baruj Benacerraf, 1980, Medicine and Physiology**  
Research on genetics and immunology

**In addition to our 15 Nobel Laureates, you will find among the faculty (living):**

31 Howard Hughes Medical Institute investigators, 65 National Academy of Science members, and 123 Institute of Medicine members

*\*Buck was awarded the Nobel Prize for work done while a member of the Harvard faculty. When the award was made, she was a member of the faculty of Fred Hutchinson Cancer Research Center.*

*\*\*Robbins was awarded the Nobel Prize for work done while a member of the Harvard faculty. When the award was made, he was a member of the faculty of Case Western Reserve University.*

A complete listing of HMS Nobel Laureates is available on the Web at <http://hms.harvard.edu/hms/facts.asp>

## GRADUATE SUCCESS



### ONI BLACKSTOCK

Albert Einstein College of Medicine (Montefiore Program) Internal Medicine/Primary Care

"From the beginning of your time at HMS, you're thinking like a doctor. Harvard students have a reputation on the wards for being able to work through problems... because we study patient cases early on."

<http://hms.harvard.edu/content/admissions>



### SARAH RUSSELL

New York State Presbyterian Hospital (Columbia Campus/ NY State Psychiatry Institute Program)

"The real strength of HMS is that it prepares you to deal with lots of different kinds of people. You see that when you get to the wards and all of the dynamics that converge on the team of people caring for a patient transfer directly to you."

<http://hms.harvard.edu/content/admissions>

## A SAMPLING OF HMS RESIDENCY PLACEMENTS

HMS students have a reputation for landing placements with highly regarded institutions in a variety of fields. Over 50 percent of the graduating class completes residency training in one of the HMS-affiliated teaching hospitals: Beth Israel Deaconess Medical Center, Brigham and Women's Hospital, Cambridge Hospital, Children's Hospital Boston, Dana-Farber Cancer Institute, Harvard Pilgrim Health Care, Joint Center for Radiation Therapy, Joslin Diabetes Center, Judge Baker Children's Center, Massachusetts Eye and Ear Infirmary, Massachusetts General Hospital, Massachusetts Mental Health Center, McLean Hospital, Mount Auburn Hospital, Spaulding Rehabilitation Hospital, VA Boston Healthcare System. Other programs attended by recent graduates include:

<b>Anesthesiology</b>	Johns Hopkins Hospital (MD)	University of Maryland Medical Center	Mount Sinai Medical Center (FL)
Duke University Medical Center	New York Presbyterian Hospital, Columbia University Medical Center	University of Pittsburgh Medical Center (PA)	Stanford University Programs (CA)
Hospital of the University of Pennsylvania	New York Presbyterian Hospital, Weill Cornell Medical Center	University of Southern California	UC Irvine Medical Center
Mount Sinai Hospital (NY)	Stanford University Programs (CA)	University of Washington Affiliated Hospitals	<b>Preliminary Surgery</b>
New England Medical Center	UCLA Medical Center	<b>Otolaryngology</b>	Duke University Medical Center (NC)
UCLA Medical Center	University of Michigan Hospitals	Johns Hopkins Hospital (MD)	New York Downtown Hospital
UCSF Medical School	UC San Diego Medical Center	Naval Medical Center (CA)	University of Iowa Hospitals (IA)
<b>Child Neurology</b>	UCSF Medical School	Stanford University Programs (CA)	<b>Psychiatry</b>
Children's Hospital-Philadelphia (PA)	University of Washington Affiliated Hospitals	University of Minnesota Medical School	Hospital of the University of Pennsylvania
UC San Diego Medical Center	Yale-New Haven Hospital (CT)	<b>Pathology</b>	UCLA Semel Institute for Neuroscience
UCSF Medical School	<b>Neurology</b>	Stanford University Programs (CA)	<b>Radiation Oncology</b>
<b>Dermatology</b>	Johns Hopkins Hospital (MD)	<b>Pediatrics</b>	Memorial Sloan-Kettering (NY)
Mayo School of Graduate Medical Education (MN)	Stanford University Programs (CA)	Baylor College of Medicine (TX)	Stanford University Programs (CA)
Stanford University Programs (CA)	UCSF Medical School	Children's Hospital-Los Angeles (CA)	University of Southern California
UC Davis Medical Center	<b>Ob/Gyn</b>	Children's Hospital-Philadelphia (PA)	University of Washington Affiliated Hospitals
University of Pittsburgh Medical Center (PA)	Johns Hopkins Hospital (MD)	New York Presbyterian Hospital, Columbia University Medical Center	<b>Radiology</b>
<b>Emergency Medicine</b>	Naval Medical Center (VA)	Northwestern McGaw (IL)	Hershey Medical Center (PA)
Alameda County Medical Center (CA)	New York University School of Medicine	Oregon Health & Science University	New England Medical Center (MA)
Beth Israel Medical Center (NY)	Tulane University School of Medicine	Stanford University Programs (CA)	University of Michigan Hospitals (MI)
Harbor-UCLA Medical Center	University of Arizona Affiliated Hospitals	UCLA Medical Center	UCLA Medical Center
Hennepin County Medical Center (MN)	University of Michigan Hospitals	UC San Diego Medical Center	Yale-New Haven Hospital (CT)
Johns Hopkins Hospital (MD)	University of Toronto (Canada)	UCSF School of Medicine	<b>Transitional Medicine</b>
Rhode Island Hospital/ Brown University	University of Virginia	University of New Mexico School of Medicine	LDS Hospital (UT)
Temple University Hospital (PA)	<b>Family Medicine</b>	<b>Phys Medicine &amp; Rehab</b>	Memorial Sloan-Kettering (NY)
UCLA Medical Center	O'Connor Hospital (CA)	Northwestern McGaw (IL)	New England Medical Center (MA)
<b>Family Medicine</b>	Sutter Medical Center (CA)	Stanford University Programs (CA)	Newton-Wellesley Hospital (MA)
Alameda County Medical Center (CA)	UCSF School of Medicine	<b>Plastic Surgery</b>	St. Joseph Mercy-Ann Arbor, MI
Beth Israel Medical Center (NY)	University of Washington Affiliated Hospitals	New York Presbyterian Hospital, Columbia University Medical Center	Santa Clara Valley Medical Center (CA)
Harbor-UCLA Medical Center	University of Southern California	Northwestern McGaw (IL)	Scripps Mercy Hospital (CA)
Hennepin County Medical Center (MN)	<b>Orthopedic Surgery</b>	University of Michigan Hospitals	Virginia Mason Medical Center (WA)
Johns Hopkins Hospital (MD)	Albany Medical Center Hospital (NY)	UCSF School of Medicine	<b>Urology</b>
Rhode Island Hospital/ Brown University	Barnes Jewish Hospital (MO)	University of Texas Medical Branch	Duke University Medical Center (NC)
Temple University Hospital (PA)	Duke University Medical Center	<b>Preliminary Medicine</b>	Georgetown University Hospital (DC)
UCLA Medical Center	Rush University Medical Center (IL)	Beth Israel Medical Center (NY)	University of Iowa Hospitals (IA)
<b>General Surgery</b>	Union Memorial Hospital (MD)	Johns Hopkins/ Bayview (MD)	
Barnes Jewish Hospital (MO)	UCSF School of Medicine	Mount Sinai Hospital (NY)	
Duke University Medical Center (NC)	University of Iowa Hospitals (IA)		
Mount Sinai Hospital (NY)			
UC Davis Medical Center			
UCSF Medical School			
University of Chicago Medical Center			
<b>Internal Medicine</b>			
Hospital of the University of Pennsylvania			

# Leading



## **MEDELL K. BRIGGS**

*M.D./M.P.H. Student  
Oliver Wendell Holmes Society  
Los Angeles, California*

*HMS enabled Medell Briggs to define who she is and what she stands for because of its promotion of individuality and self-exploration. “As a child, I was completely fascinated with the human body. Yet, my desire and motivation to attend medical school did not come to full fruition until my first year in college. For the first time in my life, I realized that many people did not have the same access to a doctor and other medical services that I had. I decided on the dual degree M.D./M.P.H. program between HMS and Harvard School of Public Health because of this lifelong concern about the health of medically underserved populations. The program opened my eyes to the numerous social determinants and factors that directly affect the health of individuals and communities and provided me with the*

*skills to properly assess and develop viable policy solutions. While at Harvard, I have worked extensively with community health projects in the surrounding communities of Mission Hill, Roxbury, and Dorchester. In addition, I had the opportunity to do a women’s health project in a regional hospital in Nakuru, Kenya, for a non-profit foundation whose mission is to decrease the rates of cervical cancer mortality among African women. I also spent a month in Chile learning about the success and challenges of the country’s recent health system reform. My interactions with medical, public health, and health policy experts at the Medical School enabled me to turn my commitment to improving the health of disadvantaged communities into a budding vision and plan. HMS nurtured my interests while also revealing to me gifts and talents that I did not know I possessed.”*



[http://hms.harvard.edu/  
content/admissions](http://hms.harvard.edu/content/admissions)



## **MARC A. LABERGE**

*M.D., Health Sciences and Technology  
Society, Ottawa, Canada*

*Marc’s desire to make a real difference in people’s lives compelled him to leave a career in investment banking to study medicine. To that end, HMS exceeded his highest expectations. “The faculty’s passion for teaching and mentoring students is amazing, especially given that they are internationally recognized experts with very busy schedules. It’s truly inspiring to learn from teachers who can do it all: be wonderful physicians and surgeons, world-class scientists and dedicated teachers. The student body at HMS is also an essential part of what makes the medical school so strong: exceptionally bright students with diverse and interesting backgrounds, committed to becoming great doctors. And the academic quality is outstanding.*

*The HST curriculum gives students in-depth and rigorous training in the science of medicine and ties in the clinical side at the end of second year with an intensive three-month program in the hospital. HMS is affiliated with some of the best hospitals in the world. Not only will you learn from outstanding clinicians, you will study fascinating and complex cases, because Harvard hospitals are global referral centers. On the research side, no matter what field you are interested in and no matter how specialized, there’s at least one HMS researcher who is an expert in it, and who would love to work with a medical student. HMS gave me the opportunity to learn from the very best and to develop the tools I need to provide patient care of the highest quality and conduct cutting-edge research.”*

# ADMISSIONS

## Selection Factors

Admission to Harvard Medical School is very selective. We seek students of integrity and maturity who have concern for others, leadership potential, and an aptitude for working with people.

The Committee on Admissions evaluates applications based on several factors, including:

- Academic records
- Applicant's essay
- Medical College Admission Test scores
- Extracurricular activities
- Summer occupations
- Life experiences
- Experience in the health field, including research or community work
- Letters of evaluation

Accepted applicants must successfully complete all courses and programs in progress as indicated at the time of application—including course requirements for admission—at a standard comparable in quality to that of past academic performance.

Harvard Medical School is committed to the enrollment of a diverse body of talented students. The Committee on Admissions welcomes applications from qualified students representing groups that historically have been underrepresented in the field of medicine.

HMS complies with federal and state law prohibiting discrimination against any applicant or enrolled student on the basis of race, color, religion, sex, sexual preference, age, or handicap unrelated to job or course of study requirements. Applicants with disabilities will be evaluated on a case-by-case basis in accordance with technical standard guidelines as suggested by the Association of American Medical Colleges. All students must possess the physical and emotional capabilities required to undertake the full curriculum independently and to achieve the levels of competence required by the faculty. Our technical standards are listed in detailed policies on our Web site: [www.hms.harvard.edu/admissions](http://www.hms.harvard.edu/admissions).

## Requirements for Admission

The Faculty of Medicine accepts applications from current students in good standing and graduates of accredited colleges who:

- Meet the minimum course work requirements listed below.
- Present evidence that their intellectual and personal credentials are of such quality as to predict success in the study and practice of medicine.
- Demonstrate aptitude in the biological and physical sciences during their undergraduate years, but not to the exclusion of the humanities and social sciences.
- Supplement their education with at least one year of college or university training in the United States or Canada *if* they have completed academic work in universities outside the United States or Canada. (Foreign students who do not have a baccalaureate or advanced degree from an institution in the United States or Canada are rarely admitted.)

*PLEASE NOTE: Students who have previously enrolled in any medical school, for any length of time, are ineligible to apply for admission at HMS. Students who have applied for admission to HMS on two prior occasions are also ineligible.*

## General Comments Regarding Course Requirements

The Committee on Admissions considers the level of courses when evaluating academic performance and determining a candidate's suitability for medicine. We require strong preparation in the sciences and mathematics basic to medical school studies. Candidates should take courses that are comparable to courses taken by students majoring in these subjects.

In the final analysis, however, it is not the number of years in college or hours in a course, but the quality of education and the maturity of the student that determine readiness for medical school. At least three years of college work and a baccalaureate degree from an accredited institution are required prior to matriculation in medical school.

## Required Courses

Detailed descriptions of the competency areas to be covered by prerequisite coursework can be found on our web site: <http://hms.harvard.edu/admissions>.

- 1. Biology:** one year with laboratory experience. Courses should be devoted to genetics and cell biology. This

requirement can be met with a formal yearlong course that covers these concepts. Other approaches (including interdisciplinary courses taught together with biologically relevant physical sciences) will be considered. Advanced placement credits cannot be used to satisfy this requirement; upper level courses should be taken if students have been granted advanced placement credits.

- 2. Chemistry:** two years with laboratory experience. Full-year courses in general (or inorganic) and organic chemistry generally meet this requirement. A one-semester course in organic chemistry which covers the relevant material and a semester course in biochemistry may substitute for the traditional year of organic chemistry. As of the class entering in 2016, biochemistry will be required. Advanced placement credits which enable a student to take an upper level course may be used to meet one semester of this requirement.

- 3. Physics:** one year. Advanced placement credits which enable a student to take an upper level course may be used to meet one semester of this requirement.

- 4. Mathematics:** either one year of calculus, or one semester of calculus and one semester of statistics, preferably biostatistics. Advanced placement credits may satisfy this requirement (Calculus AB = 1 semester, Calculus BC = 2 semesters). Preferably, students will have some combination that equals a unified two-semester course that covers important, biologically relevant concepts in calculus and statistics. As of the class entering in 2016, one semester of statistics (preferably biostatistics) will be required.

- 5. Expository Writing:** one year. One year of critical writing preparation, preferably in a course devoted specifically to the development of expository writing skills, is required. Advanced placement credits cannot be used to satisfy this requirement.

- 6. Additional requirements for the HST Program:** In addition to all the requirements, the HST curriculum requires that students be comfortable with upper level mathematics (through differential equations and linear algebra), biochemistry, and molecular biology. In addition, one year of calculus-based physics in college is required.

When advanced placement credits are used to satisfy portions of the chemistry, physics, or mathematics requirements noted above, scores from the AP examination must be submitted prior to matriculation.



*Harvard Medical School's new research building is designed to foster community.*

### **Application Procedure**

Application to Harvard Medical School is made through the American Medical College Application Service (AMCAS). All applicants are eligible to file the Harvard supplemental application, which must include a non-refundable application filing fee of \$100. We will waive the fee for applicants who have been granted an AMCAS fee waiver. HMS does not accept supplemental applications for the first-year class received after October 22<sup>nd</sup> of the year preceding expected matriculation.

Early submission of the application materials, is encouraged. All letters of evaluation should be sent to the AMCAS no later than October 22<sup>nd</sup>. Applications remaining incomplete after October 22<sup>nd</sup> will not be acknowledged; these applications will be reviewed and acted upon shortly after November 1st on the basis of the application materials on file at that time. All application materials become the property of Harvard Medical School.

Applicants selected for interviews will be notified by February. Offers of acceptance will be made from this group. Final decisions will be announced in March. Under no circumstances will decision information be released to applicants by telephone.

Only the Committee on Admissions has the authority to make offers of admission to Harvard Medical School, and this authority cannot be delegated to any other person, committee, or group. To be valid, an offer of admission must be signed by the Chairperson of the Committee on Admissions.

### **The Medical College Admission Test**

The Medical College Admission Test (MCAT) is required of all applicants. Only scores available by October 22<sup>nd</sup> will be considered. MCATs more than three years old must be retaken. Information regarding this test can be found at [www.aamc.org/students/applying/mcat](http://www.aamc.org/students/applying/mcat).

### **Transfers and Advanced Standing**

Transfers are not possible. Admission with advanced standing is limited to a few students each year who are completing the Medical Engineering Medical Physics program at MIT's Graduate School of Science and Engineering or the Oral and Maxillofacial surgery postgraduate program sponsored by Massachusetts General Hospital and the Harvard Dental and Medical Schools.

### **Deferred Admission**

Students should apply during the admission cycle for the year they plan to attend. Harvard Medical School will NOT accept applications from candidates currently enrolled in other degree granting programs, unless the pending degree will be conferred prior to medical school matriculation. This policy applies to students participating in the NIH Graduate Partnership Program. Deferrals will not be granted for students unable to complete degree programs in progress at the time of the application. However, HMS recognizes that special opportunities may arise during the application year. The Faculty Associate Dean for Admissions approves applications for deferred admission on a case-by-case basis. Deferrals are granted for one year, and consideration may be given for multiple years for students participating in two- or three-year Rhodes or Marshall Scholarships. Accepted students wishing to apply for deferral should write to the Faculty Associate Dean for Admissions stating their reasons for deferral and their plans for the subsequent year(s).

### **Additional Application Procedures and Selection Factors for M.D.-Ph.D. Applicants**

Admission to the M.D.-Ph.D. Program is highly competitive due to the limited number of National Institutes of Health Medical Scientist Training Program (MSTP)-funded positions.

The M.D.-Ph.D. Subcommittee on Admissions seeks applicants with:

- Outstanding academic ability
- Commitment to pursue careers in academic medicine and research
- Significant research experience

### **The Admission Process**

Admission to the M.D.-Ph.D. Program is contingent upon admission to the New Pathway (NP) and/or Health Sciences and Technology (HST) M.D. Program(s). Applicants must submit a complete application to one or both of these programs in addition to the M.D.-Ph.D. application materials described below.

Two application cycles are used during the academic year for students applying to the M.D.-Ph.D. Program. The first cycle is for the new applicants to Harvard Medical School. The second cycle is for currently enrolled medical students at HMS.

The AMCAS essay questions relevant to the M.D.-Ph.D. study, and letters of recommendation from research supervisor(s), are important components in the evaluation process. Application to the M.D.-Ph.D. Program does not influence admission to only the M.D. program(s). There are two separate tracks available as part of the M.D.-Ph.D. Program.

### **M.D.-Ph.D. in the Basic and Translational Sciences Track**

Admission to the M.D.-Ph.D. Program Basis and Translational Sciences Track is highly competitive due to the limited number of National Institutes of Health Medical Scientist Training Program (MSTP) funded positions.

*NOTE: The deadline for all materials for the M.D.-Ph.D. Program is October 22, 2012.*

The M.D.-Ph.D. Subcommittee on Admissions seeks applicants with:

- Outstanding academic ability
- Commitment to pursue careers in academic medicine and research
- Significant research experience

M.D.-Ph.D. applicants interested in the basic and translational sciences must submit the AMCAS application and the HMS Supplemental Application.

Applicants selected for interviews will be invited to meet with two members of the M.D.-Ph.D. Subcommittee on Admissions in addition to the interviews scheduled by the medical school for New Pathway and/or HST. All interviews will be scheduled over a one- or two-day period.

Students admitted to the M.D.-Ph.D. Program in basic and translational sciences are awarded funding starting in the first year of medical school that covers the entire period of combined M.D.-Ph.D. education for tuition, fees, and a stipend. Support is provided, in part, by the National Institutes of Health Medical Scientist Training Program (MSTP) Grant. HMS may award varying levels of support to students who matriculate and who pursue the dual degree program. Additional support is available from departmental training grants, special fellowships, and research or teaching assistantships for M.D.-Ph.D. students during the graduate years. Some M.D.-Ph.D. students are eligible for support through other NIH fellowships including the Minority Access to Research Careers (MARC) and Minority Predoctoral Programs.

Decision letters for all M.D.-Ph.D. applicants to the basic and translational sciences track are sent by U.S. mail in early March.

### ***M.D.-Ph.D. in the Social Sciences Track***

Applicants to the Social Sciences M.D.-Ph.D. Program should submit the AMCAS Application, the HMS Supplemental Application, AND also file a separate application to the Harvard Graduate School of Arts and Sciences (GSAS) for admission to a relevant Ph.D. program at the University. The M.D. can be combined with Harvard Ph.D. programs, including medical anthropology, economics, government, health policy, history of science, psychology, and sociology.

Applicants should note that application materials to medical and graduate school must be filed independently of each other since these materials are not shared. Applicants must meet all eligibility requirements and follow procedures and deadlines for each respective application process at HMS and GSAS. Applicants should also file the appropriate financial aid materials as requested in conjunction with their graduate school application. Information on graduate programs, admissions, and financial aid can be found at <http://www.gsas.harvard.edu/>.

Admission to the Social Sciences M.D.-Ph.D. Program requires admission to

both HMS and a relevant Ph.D. program at the Harvard GSAS. Funding available to students in the Social Sciences M.D.-Ph.D. Program differs from that available to the basic and translational sciences M.D.-Ph.D. track students, is more limited, and is granted via a competitive process after admission to the program. Further details about the program and available funding can be found at [http://www.hms.harvard.edu/md\\_phd/program/social.html](http://www.hms.harvard.edu/md_phd/program/social.html).

Decision letters about funding awarded by the Social Sciences M.D.-Ph.D. Program are sent by U.S. mail by early April. Decision letters about admission to HMS and GSAS follow their respective timelines for notification.

### ***Admissions Guidelines***

The following recommendations are promulgated by the Association of American Medical Colleges (AAMC) to ensure that applicants are afforded timely notification of the outcome of their medical school applications and timely access to available first-year positions and that schools are protected from having unfilled positions in their entering classes. These recommendations are being distributed for the information of prospective medical students, their advisors, and personnel at the medical schools to which they have applied. Harvard Medical School subscribes in full to these recommendations.

#### ***The AAMC Recommends That:***

1. Each applicant be familiar with, understand, and comply with the application, acceptance, and admission procedures at each school to which the applicant has applied, as well with as these recommendations.
2. Each applicant provide accurate and truthful information in all aspects of the application, acceptance, and admission processes for each school to which the applicant has applied.
3. Each applicant submit all application documents (e.g., primary and secondary application forms, transcript[s], letters of evaluation/recommendation, fees) to each school in a timely manner and no later than the school's published deadline date.
4. Each applicant promptly notify all relevant medical school application services and all medical schools with independent application processes of any change, permanent or temporary, in contact information (e.g., mailing address, telephone number, e-mail address).

5. Any applicant who will be unavailable for an extended period of time (e.g., during foreign travel, vacation, holidays) during the application/admission process:

- a. Provide instructions regarding his or her application and the authority to respond to offers of acceptance to a parent or other responsible individual in the applicant's absence.
- b. Inform all schools at which the applicant remains under consideration of this individual's name and contact information.

6. Each applicant respond promptly to a school's invitation for interview. Any applicant who cannot appear for a previously scheduled interview should notify the school immediately of the cancellation of the appointment in the manner requested by the school.

7. Each applicant in need of financial aid initiate, as early as possible, the steps necessary to determine eligibility, including the early filing of appropriate need analysis forms and the encouragement of parents, when necessary, to file required income tax forms.

8. In fairness to other applicants, when an applicant has made a decision, prior to May 15, not to attend a medical school that has made an offer of acceptance, the applicant promptly withdraw his or her application from that (those) other school(s) by written correspondence delivered by regular or electronic methods.

9. By May 15 of the matriculation year (April 15 for schools whose first day of class is on or before July 30), each applicant who has received an offer of acceptance from more than one school choose the specific school at which the applicant prefers to enroll and withdraw his or her application, by written correspondence delivered by regular or electronic methods, from all other schools from which acceptance offers have been received.

10. Immediately upon enrollment in, or initiation of an orientation program immediately prior to enrollment at, a U.S. or Canadian school, each applicant withdraw his or her application from consideration at all other schools at which he or she remains under consideration.

# TUITION, FEES, & EXPENSES

Harvard Medical School tuition rates are set annually and cover courses taken from July 1 through June 30 each year up to the final year of enrollment, ending with graduation. Tuition is billed by semester with two forms of bill payment available: payment in full by semester or monthly payments (payments for the year spread over eight months). The monthly payment plan carries a service charge of \$35 per semester.

An estimate of yearly expenses shows that the average cost for an unmarried first-year student will be approximately \$76,100 for the 10.5-month academic year 2012–2013. This estimate includes tuition, health service fee and insurance premium, room and board, books, travel, transportation to clinical sites, miscellaneous, and incidentals. Students whose homes are outside the Northeast region of the United States may experience travel costs in addition to this estimate.

Students who choose the five-year program or whose time for meeting degree requirements at Harvard Medical School exceeds eight semesters and who have paid eight semesters of full tuition ordinarily will be assessed a reduced tuition charge for each semester of enrollment beyond the eighth semester. This reduced tuition is expected to be \$1,450 per semester in 2012–2013.

## Tuition and Fees for a First-Year Student

### 2012–2013

Tuition	\$49,875
University Health Services Fee	\$930
Blue Cross/Blue Shield	\$2,168
Disability Insurance	\$63
Matriculation Fee	\$35
Educational Materials Fee	\$425
Vanderbilt Hall (avg. rent)	\$8,470

*Tuition and fees are adjusted on an annual basis.*

## Financial Aid

The decision to attend a high-cost private medical school should involve the entire family, as the primary responsibility for financing the education falls on the individual students (and spouses, if married) and their parents. Our Financial Aid Office strives to help students meet any shortfall of funds after the maximum financial effort has been made by the student and his/her family. In academic year 2011–2012, the Financial Aid Office administered financial assistance to approximately 87 percent of the student body.

The application process for financial assistance is separate from the admissions process. The Committee on Admissions

follows a long-standing policy of selecting candidates without regard to the candidate's ability to pay for medical school. Candidates selected for admission or for the wait-list are invited to apply for financial assistance and will be sent the necessary application forms.

The Financial Aid Committee awards financial assistance solely on the basis of financial need and the availability of funds; no merit-based scholarship awards are offered.

## Financial Need

When calculating a student's financial need, the Financial Aid Office determines the expected family contribution by analyzing the family's financial disclosure according to a national formula. This financial disclosure is made via several financial aid application documents, including the U.S. Department of Education's Free Application for Federal Student Aid (FAFSA). The calculated family contribution is then subtracted from the estimated total cost for the year to arrive at the amount of financial need:

$$\begin{array}{rcccl} \text{Standard} & - & \text{Family} & = & \text{Financial} \\ \text{Budget} & & \text{Contribution} & & \text{Need} \end{array}$$

**Student Expenses.** For 2012–2013, eligibility for financial aid is based on the cost of attendance for a single first-year student of \$76,100. This includes \$49,875 for tuition and \$26,225 for all other fees, supplies, and living expenses. The cost varies by year in school, and annual increases are possible due to inflation. We do not consider a separate budget for married students, as support for dependents is taken into account when determining the expected family contribution. School-administered funds are not available to meet expenses for individuals other than the student.

**Family Contribution.** To be considered for institutional grants and loans, the Financial Aid Office requires applicants to supply parent financial information, regardless of age, dependency, marital status, tax status, or prior history of financial independence.

For students aged 29 or above by October 1st of the academic year, the calculated parent contribution will be reduced 25–80 percent. (Actual percentage reduction is based upon age of student as of October 1st.)

In extreme cases, (e.g., when the whereabouts of a parent are unknown), the Financial Aid Office requires that the family's situation be documented by a third-party professional, such as a clergyman, attorney, social worker, or family physician who has personal and long-term knowledge of the family.

**NOTE:** Students who anticipate that parents will not provide the full expected parent contribution must plan in advance how they will finance Harvard Medical School without parental help. It is Harvard Medical School policy not to replace an absent expected parent contribution with institutional aid.

## Program Eligibility Criteria

The HMS Financial Aid Office administers several need-based scholarships and low-interest loans, including the HMS Scholarship, HMS Revolving Loan, Wolfson Loan, and federal Title VII programs for disadvantaged students. Parent information is an important component in determining eligibility for these programs.

Applicants who choose not to provide parental information may be still considered for the following programs: Federal Direct Stafford/Ford Loan, Federal Direct PLUS Loan, and the Federal Work-Study Program (FWS). Non-federal, commercial market-rate student loans are also available; please contact the Financial Aid Office for more information. While it is possible to meet virtually the entire cost of attendance through loan programs, this option is not encouraged due to the heavy debt burden that would result at graduation.

## Packaging Financial Aid Awards: The Unit Loan

Harvard Medical School uses a policy known as the Unit Loan concept to package financial aid awards and assure that high-need students have priority for scholarship funds. The Unit Loan is a package of loans offered to meet financial need before any HMS scholarship is offered. A student's financial need must exceed the total Unit Loan before the student is eligible for scholarship aid through HMS.

$$\begin{array}{rcccl} \text{Financial} & - & \text{Unit} & = & \text{HMS} \\ \text{Need} & & \text{Loan} & & \text{Scholarship} \end{array}$$

For the 2012 incoming class, the Unit Loan is \$26,950. A student whose computed need exceeds \$26,950 will be offered an HMS Scholarship. The cornerstone of our loan package is always the Federal Direct Stafford Loan (6.8% fixed interest rate). The Perkins Federal Loan and various low-interest loans (interest of 5%–7%) are used to meet the remaining loan need up to our Unit Loan amount. Payments are not required while the student is in school.

**SPECIAL NOTE:** The federal portions of the Unit Loan require that a recipient be a U.S. citizen or a permanent U.S. resident. Aid from federal programs will be removed from the financial aid packages of international students. Harvard Medical School and/or private financial aid funds are then awarded to meet this gap.

Each entering class is assigned a Unit Loan amount prior to matriculation.



This Unit Loan amount will remain fixed for all members of that class for the duration of their enrollment at HMS. The Unit Loan changes in composition from one academic year to the next depending upon available funding levels. The Financial Aid Committee reserves the right to adjust the packaging of late applicants when funding is limited.

**Outside Awards.** Scholarships obtained by the candidate from sources outside of Harvard are used to replace the loans in a student's aid package (starting with institutional loan). Upon request, students may use these funds to replace expected parent contribution instead of reducing loans.

### **Financial Aid Application Procedures**

Harvard Medical School uses the Free Application for Federal Student Aid (FAFSA) and the Access Group's Need Access Application as key components of the financial aid application. Students who anticipate needing financial aid are urged to file FAFSA and Need Access Application forms as soon as possible after January 1. These forms are available online at: [www.fafsa.ed.gov](http://www.fafsa.ed.gov) (HMS Title IV School Code E00472) and [www.needaccess.org](http://www.needaccess.org).

Candidates accepted or wait-listed for admission are sent financial aid application instructions in March. Required documents include parent tax returns. Families are urged to complete their tax returns early as financial aid awards cannot be prepared until all financial aid application materials have been received. If financial aid is a key factor in your decision to attend HMS, you must file as early as possible.

### **Sample Cases**

Applying the policies described above, the following shows two types of financial aid awards:

<b>1 Standard Budget</b>	\$76,100
Less Family Contribution	-49,150
Financial Need	\$26,950

#### **Award**

Federal Stafford Loan	\$ 18,850
Federal Perkins, HMS Revolving & Wolfson Loan	\$8,100
HMS Scholarship	0

<b>Total Aid</b>	\$26,950
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<b>2 Standard Budget</b>	\$76,100
Less Family Contribution	-22,150
Financial Need	\$53,950

#### **Award**

Federal Stafford Loan	\$ 18,850
Federal Perkins, HMS Revolving & Wolfson Loan	\$8,100
HMS Scholarship	\$27,000

<b>Total Aid</b>	\$53,950
------------------	----------

If the student in either case was unable to obtain the full calculated family contribution, s/he would have to make up the shortfall from additional resources. These might include the Federal Direct Stafford/Ford Loan, the Federal Direct PLUS Loan, a private unsubsidized loan, or job earnings.

### **For More Information**

Please call or write if you have additional questions or concerns about financing your medical education at Harvard: HMS Financial Aid Office, 25 Shattuck Street, Gordon Hall, Room 211, Boston, MA 02115-6092, telephone: (617) 432-0449, fax: (617) 432-4308, e-mail: [financial\\_aid@hms.harvard.edu](mailto:financial_aid@hms.harvard.edu).

### **Financial Aid Calendar 2013**

#### **January 1**

Earliest date that the federal government and the Access Group will accept FAFSA and Need Access Application forms for processing. Families should file tax returns, FAFSA, and Need Access Application forms as soon possible after this date.

#### **Early March**

Candidates accepted or wait-listed for admission are sent financial aid materials.

#### **April 1**

Evaluation of completed files and mailing of financial aid award letters begin on a rolling basis.

#### **April 15**

Deadline for submission of all application materials including tax returns for the most recent calendar year.

#### **May 15**

Last day an admitted student can simultaneously hold a place at HMS and another medical school.

# Leading

## DR. RICHARD MITCHELL

*Associate Professor of Pathology and Health Sciences and Technology, Brigham and Women's Hospital, Associate Master of Harvard-MIT Division of Health Sciences and Technology*

*A specialist in cardiovascular pathology, Dr. Mitchell's enthusiasm about his current research in cardiovascular diseases and solid organ transplant is surpassed only by his commitment to his students. "For students who love research, being at Harvard Medical School is a lot like being a kid in a candy store," he says. "The depth and breadth of scientific investigation conducted in this community is incredible."*

*Dr. Mitchell draws inspiration from his everyday interaction with the students he supervises within both the cardiology and pathology laboratories at Harvard's state-of-the-art New Research Building. "It is an environment unbelievably rich in cross-fertilization," he says. "My students work with engineers and physicists on the next-level hip prostheses, or next-generation heart valves, or retinal implants that allow blind people to see. I've had students have brilliant ideas, take a break from medical school to start their own companies, and be featured on the cover of Fortune magazine before returning to complete their medical degrees."*

*"Our goal is to help our students become fluent in the languages of science and medicine and to graduate leaders who can understand the utility of such an interaction."*



<http://hms.harvard.edu/content/admissions>

# SELECTED POLICIES

## ***Access to Educational Records: Family Rights and Privacy Act of 1974 (FERPA)***

Annually, Harvard Medical School informs students of the Family Rights and Privacy Act of 1974, as amended. This Act was designed to protect the privacy of education records, to establish the right of students to inspect and review their education records, and to provide guidelines for the correction of inaccurate or misleading data through informal and formal hearings. Students also have the right to file complaints with the Family Rights and Privacy Act Office concerning alleged failures by the institution to comply with the Act.

Within the Harvard Medical School community, only those members, individually or collectively, with a legitimate educational interest are allowed access to student educational records. Local policy explains in detail the procedures to be used by the institution for compliance with the provisions of the Act. A copy of the policy can be found at the HMS Registrar's Office, 25 Shattuck Street, Gordon Hall Room 213, Boston, MA 02115. Questions concerning FERPA may be referred to the Registrar.

The School will release certain information classified as "directory" information unless a student indicates that such information should not be released. Directory information is classified as: full name, local address, telephone number, photograph, and dates of enrollment. Requests to withhold this information should be indicated on the Personal Data Form that is filled out annually and submitted to the Registrar's Office in August.

## ***Personal and Professional Responsibility***

Harvard Medical School has the responsibility of ensuring that its graduates meet certain standards of professional conduct and responsibility. These standards include reliability, honesty and integrity, responsibility in professional relationships, responsibility in relationships with patients and families, and responsibility related to substance abuse. Promotion and granting of the M.D. degree require both satisfactory completion of courses and the required credits and demonstration by the student of responsible conduct. Students will be evaluated on the basis of these standards.

Harvard Medical School subscribes to the AAMC's statement of professional responsibility in treating patients with HIV, adopted by the Executive Council of the AAMC on February 25, 1988: medical students, residents, and faculty have a fundamental responsibility to provide care to all patients assigned to them, regardless of diagnosis. A failure to

accept this responsibility violates a basic tenet of the medical profession—to place the patient's interests and welfare first.

## ***Attendance***

Participation in the curriculum is considered as one aspect of a student's commitment to the learning of medicine and evidence for an understanding and mastery of professional responsibility. Attendance at all classes and venues involving patient participation is mandatory. Attendance and punctuality during all aspects of clinical clerkships are expected and are considered an important part of a student's evaluation. Students, like house staff, are expected to fulfill their patient care responsibilities; they are accorded real roles and form an integral part of the health care team. As the small-group tutorial is the cornerstone of the educational experience in the New Pathway curriculum, attendance at tutorial is required. The HST curriculum, by its very nature and the size of its student body, depends upon active participation in all venues of education, including lectures, small group meetings, laboratories, and research symposia; attendance is therefore expected of all students.

## ***Policy Regarding Religious Holidays***

In accordance with Massachusetts state law, any student who is unable, because of his or her religious beliefs, to attend classes or to participate in any examination, study, or work requirement on a particular day shall be excused from any such examination, study, or work requirement. Provided that students use careful discretion in judging the importance of a particular holiday, Harvard Medical School provides the opportunity to make up such absences.

## ***Transportation***

Medical schools have recognized that students need educational experiences beyond those available in teaching hospitals. In answer to this educational need, ambulatory sites, rehabilitation centers, geriatric facilities, nursing homes, health centers, and other venues have been introduced to provide a comprehensive exposure to a broad range of patients, illnesses, and care. Harvard Medical School policy is that students are responsible for arranging their own transportation, including that to and from their clinical sites. These sites, with rare exceptions, are accessible by public transportation from the medical school.

## ***Technical Standards for Medical School Admission, Continuation, and Graduation***

Applicants to Harvard Medical School are selected on the basis of their academic, personal, and extracurricular dimensions. In addition, applicants must have the intellectual, physical, and emotional capacities to meet the requirements of the school's curriculum and of a successful medical career.

A detailed statement of Harvard Medical School's technical standard guidelines is available at <http://hms.harvard.edu/admissions> under the Detailed Policies section. These guidelines specify the attributes that the HMS faculty considers essential for completing medical school training and for enabling each graduate to enter residency and clinical practice. Because these standards describe the essential functions that students must demonstrate to meet the requirements of a general medical education, they are prerequisites for entrance, continuation, promotion, and graduation.

## ***Grading and Assessment***

Courses ordinarily taken by first-year and second-year Harvard Medical students are graded Satisfactory/Unsatisfactory. Marginal performance by a student is noted by the course director in a letter to the student, with copies to the Society Master and Registrar.

Narratives on the performance of each student are prepared by the faculty of all courses having regular small group teaching sessions. This routinely applies to tutorials, but may also include labs and conferences.

Most courses normally taken during Years III and IV, including Core Clerkships, and clinical and non-clinical electives are graded High Honors/Honors/Satisfactory/Unsatisfactory. The High Honors grade is reserved for outstanding performance, not given according to formula or quota. The summative narrative component of grading in clinical clerkships becomes part of the official record. Formative comments regarding performance in clinical clerkships are to assist student self-directed learning. They are available in each Society for review by the student, Society Master, Associate Master, and Advisor.

## ***Licensure***

Meeting the graduation requirements for the M.D. degree at Harvard does not guarantee eligibility for the licensure requirements. Some states have particular curricular requirements for licensure that may not be met by the Harvard curriculum. Students are advised to check with the Medical Board in states of possible residence for licensure requirements.

The National Board of Medical Examiners has established a single, three-step examination for medical licensure in the United States. The United States Medical Licensing Examination (USMLE) provides a common evaluation system for applicants for medical licensure. Harvard medical students are required to obtain passing scores on both Step 1 and Step 2 prior to graduation. Step 3 is taken after the M.D. degree is earned.

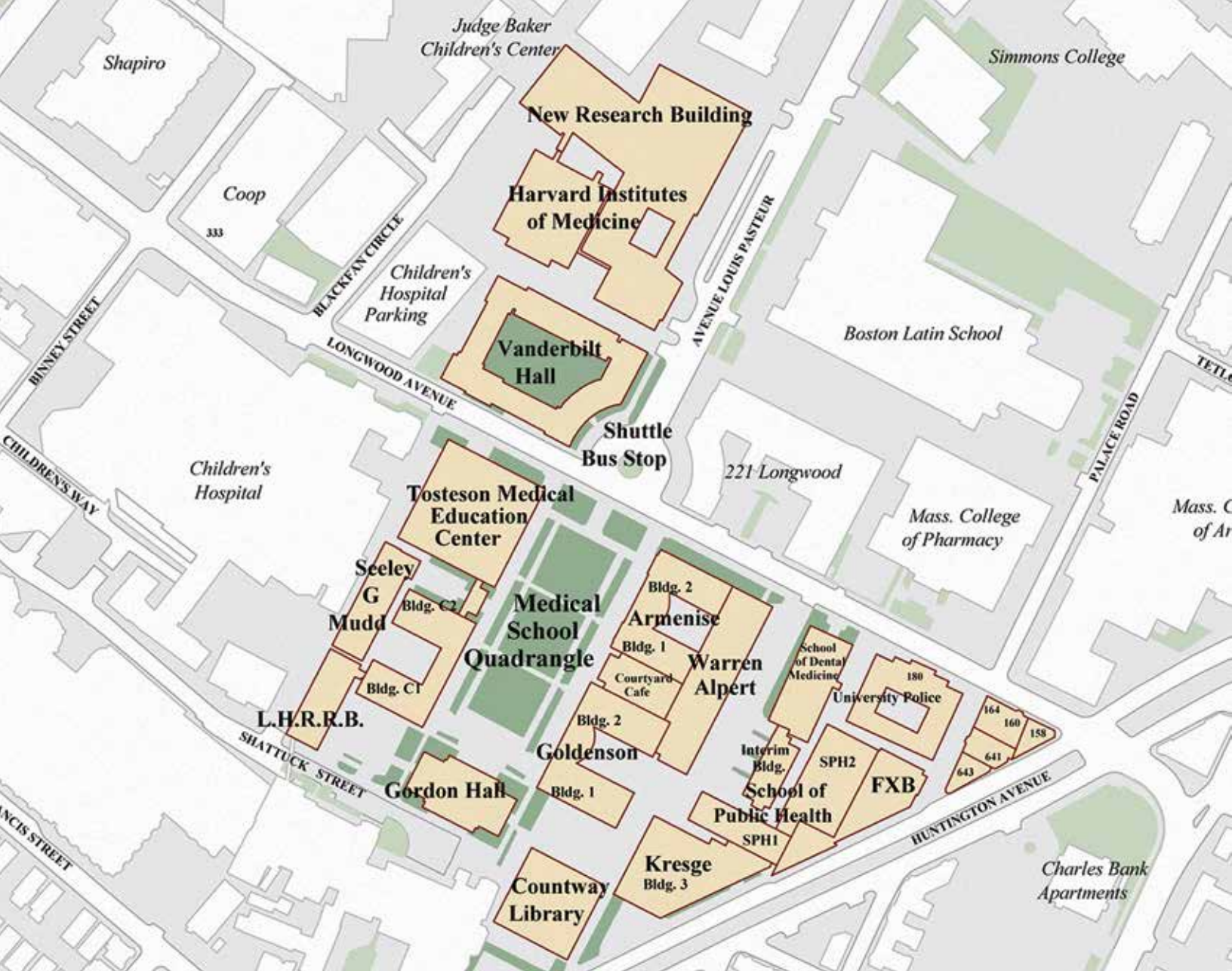
### ***Crime Awareness and Campus Security for Members of the Harvard Community***

The Harvard University Police Department publishes an annual report, *Playing It Safe*, which is intended to inform students, faculty, staff, and other members of the University community about campus safety and security policies, procedures, and practices, and to encourage a sense of self-responsibility for personal safety and security. The statistics, programs, and services described in this pamphlet are designed to help members of the Harvard community prevent crime and to promote safety and security around campus.

*Playing It Safe* was prepared in support of the University's commitment to foster a safe and secure campus environment, as well as to comply with the requirements of the Student Right-to-Know and Campus Security Act of 1990, the Drug-Free Workplace Act of 1988, and the Drug-Free Schools and Community Act Amendments of 1989. Copies of this publication are provided to all enrolled students annually; others may request a copy from the Harvard University Police Department, 1033 Massachusetts Ave, 6th floor, Cambridge, MA 02138, (617) 495-1215.

## ACADEMIC CALENDAR

<b><i>Important Dates for Academic Year 2012–2013</i></b>			
<b><i>August 2012</i></b>	<b>20</b>	Mon.	Classes begin for all students
<b><i>September</i></b>	<b>3</b>	Mon.	Labor Day—no classes
<b><i>October</i></b>	<b>8</b>	Mon.	Columbus Day—no classes
<b><i>November</i></b>	<b>12</b>	Mon.	Veterans' Day—no classes
	<b>22–23</b>	Thurs.–Fri.	Thanksgiving recess
<b><i>December</i></b>	<b>14</b>	Fri.	HST classes end
	<b>17–21</b>	Mon.–Fri.	HST final exam period
	<b>24</b>	Mon.	Winter Recess for all Societies
<b><i>January 2013</i></b>	<b>7</b>	Mon.	Classes resume for New Pathway and HST
	<b>21</b>	Mon.	M.L. King Day—no classes
<b><i>February</i></b>	<b>1</b>	Fri.	HST January classes end
	<b>4</b>	Mon.	HST Spring classes begin
	<b>18</b>	Mon.	President's Day—no classes
<b><i>March</i></b>	<b>18–22</b>	Mon.–Fri.	Spring recess (all Societies)
<b><i>April</i></b>	<b>15</b>	Mon.	Holiday at MIT only (Patriot's Day)
<b><i>May</i></b>	<b>17</b>	Fri.	HST classes end
	<b>20–24</b>	Mon.–Fri.	HST final exam period
	<b>23</b>	Thurs.	Harvard Commencement and HMS Class Day (all Societies)
	<b>27</b>	Mon.	Memorial Day—no classes
<b><i>June</i></b>	<b>14</b>	Fri.	HST/MIT Commencement New Pathway Year 1 classes end



## DIRECTIONS TO HARVARD MEDICAL SCHOOL

### **From North and South of Boston**

Take Interstate 93 to Exit 26 (Cambridge/Storrow Drive). At the end of the exit ramp, take underpass to Storrow Drive. Follow Storrow Drive approximately 2.5 miles to Kenmore Square Exit (on left). Bear left at exit ramp, and take a right turn at the traffic light at the end of the ramp (Boylston Street). Follow Boylston Street approximately 1.5 miles until it merges into Brookline Avenue. Pass the Beth Israel Deaconess Medical Center East Campus on the left, and make a left turn onto Longwood Avenue (watch for the blue and white Longwood Medical and Academic Area signs). The Medical School Quadrangle is approximately .5 miles down on the right. The Admissions Office is located in Gordon Hall, at the head of the Quadrangle.

### **From West of Boston**

Take Interstate 90 (Massachusetts Turnpike) to exit onto Interstate 93 and follow directions above.

### **From Logan Airport**

Take the Sumner Tunnel into Boston and follow signs for Storrow Drive. Follow the directions as given above for travel from north and south of Boston.

### **From Boston's MBTA Subway**

Take the Green Line "E" train outbound (west). Once the streetcar comes above ground, exit at the third above-ground stop, Longwood Medical Area. Cross Huntington Avenue and turn right onto Longwood Avenue. The Medical School Quadrangle is approximately 300 yards down Longwood Avenue on the left. The Admissions Office is located in Gordon Hall, the building at the head of the Quadrangle.

*Harvard Medical School is an integral part of the Longwood Medical and Academic Area (LMA), a 175-acre community of health care and educational institutions located adjacent to Fenway Park and the town of Brookline, Massachusetts. In a 90-year period, the LMA has earned recognition as one of the most prestigious centers of medical and educational service in the country.*

# HARVARD DIRECTORY

## Harvard Medical School

www.hms.harvard.edu  
Office of the Committee on Admissions  
306 Gordon Hall  
25 Shattuck Street  
Boston, MA 02115-6092  
admissions\_office@hms.harvard.edu

Admissions: (617) 432-1550  
HST Program: (617) 432-7192  
M.D.-Ph.D. Program: (617) 432-0991  
Recruitment & Multicultural  
Affairs: (617) 432-1572  
Financial Aid: (617) 432-0449  
Housing: (617) 432-1630  
Student Affairs: (617) 432-1570  
Scholars in Medicine Office: (617) 432-1573  
Registrar: (617) 432-1515

## Other Harvard Schools and Programs

### Harvard University Graduate School of Arts & Sciences

8 Garden Street  
Byerly Hall, 2<sup>nd</sup> Floor  
Cambridge, MA 02138-3654  
Admissions: (617) 495-5315

### Division of Medical Sciences

260 Longwood Avenue, Room 435  
Boston, MA 02115  
Admissions information: (617) 432-0162

### Harvard Business School

Dillon House  
Soldiers Field Road  
Boston, MA 02163  
Admissions: (617) 495-6127

### Harvard School of Dental Medicine

188 Longwood Avenue  
Boston, MA 02115  
Admissions: (617) 432-1443

### Harvard Graduate School of Design

48 Quincy Street  
422 Gund Hall  
Cambridge, MA 02138  
Admissions: (617) 495-5453

### Harvard Divinity School

12 Divinity Avenue  
Cambridge, MA 02138  
Admissions: (617) 495-5796

### Harvard Graduate School of Education

Appian Way  
Cambridge, MA 02138  
Admissions: (617) 495-3414

### John F. Kennedy School of Government

79 John F. Kennedy Street  
Cambridge, MA 02138  
Admissions: (617) 495-1155

### Harvard Law School

1563 Massachusetts Avenue  
Cambridge, MA 02138  
Admissions: (617) 495-3109

### Harvard School of Public Health

677 Huntington Avenue  
Boston, MA 02115  
Admissions: (617) 432-1030

### Harvard College

Byerly Hall  
8 Garden Street  
Cambridge, MA 02138  
Admissions: (617) 495-1551

### Harvard University Division of Continuing Education

51 Brattle Street  
Cambridge, MA 02138  
General Information: (617) 495-4024

*This bulletin contains current information on subjects that are of interest to students and applicants. It should be recognized that all information in the bulletin is subject to revision and, from time to time, changes are made in course offerings, academic rules and the plan of instruction. Information contained herein supersedes that previously published and is subject to change.*

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## *Harvard Medical School Profile*

**Mission:** To create and nurture a diverse community of the best people committed to alleviating human suffering caused by disease.

**History:** Established 1782.

**Setting:** An integral part of the Longwood Medical and Academic Area (LMA), a 175-acre community of health care and educational institutions located adjacent to Fenway Park and the town of Brookline, Massachusetts.

**Affiliated Hospitals:** Beth Israel Deaconess Medical Center, Brigham and Women's Hospital, Cambridge Health Alliance, Children's Hospital Boston, The Dana-Farber Cancer Institute, The Forsyth Institute, Harvard Pilgrim Health Care, Hebrew SeniorLife, Joslin Diabetes Center, Judge Baker Children's Center, Massachusetts Eye and Ear Infirmary, Massachusetts General Hospital, McLean Hospital, Mount Auburn Hospital, Schepens Eye Research Institute, Spaulding Rehabilitation Hospital, VA Boston Healthcare System.

## *Basic Facts*

**Faculty:** Over 11,000, including 8,259 full-time.

**Trainees:** 8,224 resident physicians, interns, and postdoctoral fellows.

**Total Students Enrolled in M.D. Program, Fall 2011:** 705.

**Total Students Enrolled in M.D.-Ph.D. Program, Fall 2011:** 145.

**Total Students Enrolled in Ph.D. Program, Fall 2011:** 556.

**Student Profile:** Harvard Medical School affirms that medical education is enhanced by diversity among the student body, and has one of the most diverse medical school enrollments in the country. 21% of the student body comes from groups underrepresented in medicine, and another 31% from other minority groups. Students hail from over 40 U.S. states, many foreign countries, and over 100 different undergraduate institutions.

**Achievement:** Harvard Medical School has been home to 15 Nobel Laureates and many national and internationally recognized researchers and medical scholars.



# HARVARD MEDICAL SCHOOL

Harvard Medical School

Office of the Committee on Admissions

25 Shattuck Street

Boston, MA 02115

[www.hms.harvard.edu](http://www.hms.harvard.edu)