MGH Hotline

A Publication For and About the Employees of Massachusetts General Hospital



Mass General: A Teaching Hospital for the 21st Century



"Simulation labs help me become a better provider. It is important for students to gain exposure to complex cases. Having the ability to talk things out with my preceptors when I'm not sure what to do next is amazing."

Korey White, MPH, physician assistant student, participates in an MGH Learning Laboratory simulation session

Graduate Medical Education

Watch this video to learn more about the trainee experience and hear from residents, fellows and program leaders about the exceptional learning experiences offered at Mass General.



On Oct. 16, 1846, William T.G. Morton made history in the Massachusetts General Hospital surgical teaching amphitheater when he demonstrated the first successful public surgery using the anesthetic ether – setting the stage for centuries of discovery and innovation at Mass General. Now known as the Ether Dome, the amphitheater is an embodiment of MGH's mission to advance care through education, research and service to the community.

Opportunities to learn can be found in every corner of the hospital – from the MGH Learning Laboratory to the Paul S. Russell, MD Museum of Medical History and Innovation. Teaching, learning and advancing knowledge have been part of Mass General's rich tradition since its founding more than 200 years ago, and the impact of that tradition is seen in the care provided by the thousands of trainees, staff and alumni around the world.

"Education has always been a central element of Mass General's DNA from the very conception of the Ether Dome," says James Gordon, MD, MGH chief learning officer. "And I suspect there is more teaching, learning and education in the health professions going on at Mass General on any given day than in most other places in the world."

The original and largest teaching hospital of Harvard Medical School and founder of the MGH Institute of Health Professions, Mass General is dedicated to training and mentoring health professionals at all stages of their development. Learners benefit from rigorous, top-notch training and faculty expertise, staff benefit from challenging one another to strive for excellence, and patients benefit from the world-class education their health care providers receive.

Education and Resources at a Glance

27 residencies and 128 fellowship program supporting close to 1,500 physician trainees per year

300 Harvard Medical School students rotating at MGH per year

1,600 health professional students at the MGH Institute of Health Professions per year

More than **2,800** nursing and health professional students on clinical rotation per year

More than 80 training affiliations with health professions schools and universities

More than 10,000 MGH clinical staff requiring continuing professional development

Why is Investing in Education so Important?



Each member of the health care workforce must continually develop new skills as clinical practice evolves to provide the very best care.



Interprofessional team training and systems-based practice are critical elements of high-quality patient care.



Organizational excellence is directly linked to systemwide adoption of best practice protocols for patient care and critical event management.



Health systems that prioritize education provide better care.

A Transformational Gift: Enhancing Education for the Future

Mass General's longstanding commitment to education has provided the model for academic medical centers around the world. Now, with the support of a recent \$50 million transformational gift from The Lunder Foundation of Portland, Maine, Mass General is setting out to reinvent health care education and ensure revolutionary results for every patient.

The Lunder Learning Initiative strengthens MGH as a clinical "health care university" where the education mission supports the training of future providers, which supports better care for all patients.

"This is an unprecedented opportunity to enhance education and quality of care across the institution and to serve as a local, regional, national and international resource for education," says James Gordon, MD, MGH chief learning officer. "The expertise, history and support for teaching and learning at Mass General can be used to set a new global standard for prioritizing education to enhance patient care in the 21st century."

This gift will enhance the training of future providers in all roles by supporting three major educational initiatives designed to strengthen and expand the ability to teach and learn: the Peter L. Slavin, MD Academy for Applied Learning in Health Care, the Lunder Learning Hospital and the MGH Learning Endowment.

"I'm excited about this opportunity for all of us to work together, to be able to teach and learn together, to be able to fundamentally improve patient care at Mass General," Gordon says. "This is a wonderful chance to highlight the importance of education in the provision of high-quality, safe, efficient patient care."

The MGH Learning Endowment

The MGH Learning Endowment will sustain the long-term impact of the Slavin Academy and the Learning Hospital. The inaugural \$5 million endowment will provide programmatic resources and establish two faculty chairs: the David F. M. Brown, MD Endowed Education Academy Chair and the Lunder Family Endowed Education Academy Chair, which will become the James A. Gordon, MD Endowed Education Academy Chair when Gordon chooses to retire. This initial gift will launch a challenge to raise funds for additional education chairs in collaboration with each department, further expanding the hospital's ability to support innovative teaching and research that will drive change in learning science throughout the health care field.

The Lunder Learning Hospital

The Lunder Learning Hospital will serve as a large-scale, unified training ground for students, trainees and staff across the institution. Providers will train on lifelike simulators and instructional models with actors portraying patients, allowing for a space to practice and learn together in a safe environment. This mirrors real-life clinical experiences and models care across the system. The Learning Hospital will also include classrooms and collaborative spaces. The holistic training provided there will ultimately enhance expertise, reduce errors and promote compassionate, expert and equitable care across campus while also serving as a worldclass resource to support learners and institutions throughout the region, across the country and around the globe.

"This transformative gift will strengthen and broaden educational opportunities for all health care learners, improve care for patients and reinforce the hospital's legacy as a leading force in health education."

David F. M. Brown, MD, MGH president

The Peter L. Slavin, MD Academy for Applied Learning in Health Care

The Peter L. Slavin, MD Academy for Applied Learning in Health Care will serve as the institutional hub for this ambitious effort. Named in recognition of former hospital president Peter L. Slavin, MD, and his longtime commitment to education, this new center will support and develop teaching faculty across professions; foster educational innovation; explore and expand opportunities to introduce new practices and technologies; inspire and expand scholarship in the science of learning; and transform the landscape of interprofessional and systemwide medical education everywhere.

Mass General Slavin Academy Strategic Planning

- ◆ Develop **new models for education** that prepare future clinicians to offer high quality, efficient, team-based care.
 Developing a core group of clinician educators is key to this strategy.
- ◆ Focus on education across all career stages and disciplines by piloting and expanding new models of practice, continuing education and interprofessional education.
- ◆ Enhance organizational structure to represent and support the education mission across campus.

Mass General Slavin Academy Organizational Priorities

Promote Educational Mission

Bolster MGH education leadership and educate internal and external audiences about value of the "teaching hospital."

Evaluate Educational Effectiveness

Increase education outcomes, research and publication.

Invigorate Educators

Develop the community, skill set and careers of MGH clinician educators.

Transform the Learner Experience

Expand innovative approaches to customized, deliberate and interprofessional educational experiences.

Sustain Educational Impact

Strengthen external partnerships, alumni relationships, philanthropy and financial support for education.





Scan here for a
Harvard Macy Institute
podcast to learn about
the impact of the
gift from The Lunder
Foundation and the
role of simulation,
learning and education
at Mass General.

The Magic of Simulation: Routine Practice for Expert Performance



Upon entering the MGH Learning Laboratory, students across professions and career stages are greeted by the sights and sounds of a typical hospital room – complete with the blinking eyes of a robotic patient manikin. The lab's instructors control the manikin to simulate scenarios providers may encounter on the job. In a recent session, Korey White, MPH, a physician assistant student rotating through Mass General for clinical training, was tasked with diagnosing and developing a care plan for an 80-year-old patient presenting symptoms of a urinary tract infection following her hip replacement.

"Being able to complete simulations is so important for future providers," White says. "It allows us to encounter critical cases we might not always see in practice."

Using a range of adult and pediatric manikins, procedural task trainers and equipment such as ultrasound and defibrillators for simulation training, learners in the MGH Learning Lab can improve their skills with support from experienced simulation specialists. Working closely with the Knight Nursing Simulation Program and other teams, the Learning Lab also supports training "in situ," bringing teaching

sessions into clinical areas to maximize the fidelity of the experience for learners of all levels.

"No matter what specialty one works in or whether one is a student or seasoned professional with decades of experience, the MGH Learning Lab provides the support needed to create and implement simulationbased training sessions in a judgment-free, risk-free environment," says James Kimo Takayesu, MD, Medical Education Fellowship director for the MGH/Brigham and Women's Hospital Emergency Medicine Residency and departmental simulation officer for MGH Emergency Medicine. "Looking to the future, we hope to continue

expanding the role of simulation-based education to support the Mass General Brigham mission of clinical excellence."

The lab was created in 2009 to integrate clinical simulation as a quality and safety tool across the MGH. It now serves as a central resource for simulation-based training for essential skills including teamwork and communication, critical thinking and decision-making, and procedural, protocol and process skills. Moving forward, the lab and its affiliated community of practice will collaborate to develop the Lunder Learning Hospital as a consolidated platform for training across the entire workforce.

"We are all learners at heart and having shared experiential learning sessions has fostered improved relationships that translate into improved teamwork in the real clinical world," says May Pian-Smith, MD, chief of the Division of Quality and Safety, Department of Anesthesia, Critical Care and Pain Medicine. "It has been rewarding to work as a faculty member in the Learning Lab. Ultimately, it's all good for patient safety, and it's all good for clinician wellness and joy."

Teaching and Training: Support for Education Across the Hospital

MGH Executive Committee on Teaching and Education

The MGH Executive Committee on Teaching and Education (ECOTE) oversees all institutional matters relating to the teaching mission of the MGH. ECOTE supports thousands of students, trainees, educators and faculty across the health professions. The Slavin Academy was launched to strengthen the tools, programs and resources necessary to advance the hospital's education mission and to support evidence-based teaching models for lifelong learning across the health system.

Nursing and Patient Care Services

The Institute for Patient Care

The Institute for Patient Care is a collaborative of centers and programs driving innovations in patient care, staff education, research and knowledge development. As part of Nursing and Patient Care Services, the educational support provided to clinicians and staff is foundational to the MGH's ability to deliver exceptional care to patients and families.

Norman Knight Nursing Center for Clinical and Professional Development

With programs ranging from onboarding clinical staff in Nursing and Patient Care Services to workshops and simulations for interprofessional teams, the Norman Knight Nursing Center for Clinical and Professional Development provides continuing education for health care providers through the Accreditation Council for Continuing Medical Education, the Accreditation Council for Pharmacy Education, and the American Nurses Credentialing Center.

Blum Learning Center

The mission of the Maxwell and Eleanor Blum Patient and Family Learning Center is to provide high-quality patient education and consumer health information services to Mass General patients, families and staff. The Blum Center team is committed to assisting patients and families to learn about their health, illness and health care, to supporting health literacy and to assisting staff in acquiring the skills necessary to effectively teach patients about health and illness.

Mass General Brigham Workforce Development

All employees, regardless of their prior experience or education, are encouraged to stay engaged and seek out new educational opportunities at Mass General. Workforce Development offers both online and inperson courses to help staff improve writing, technology and language skills, receive support when attaining U.S. citizenship, prepare for college and plan their career path.

"As clinical care grows in acuity and complexity, continuing education is not only essential but critical to our success."

Gaurdia Banister, RN, PhD, Institute for Patient Care executive director

"The Knight Nursing Center is committed to offering high quality, evidence-based and relevant programming for our staff. Our focus is on promoting lifelong learning and career development through our partnerships across Mass General."

Gino Chisari, RN, DNP, Norman Knight Nursing Center director

"For more than 20 years, the Blum Center has played a critical role in assisting Mass General to meet the comprehensive health education needs of patients and staff."

Brian French, RN, Blum Center and the Knight Simulation Program director

MGH Institute of Health Professions: Innovative, Interprofessional Graduate School

Since its founding, the MGH has been home to people who are driven to make a difference – to better themselves for the sake of their patients. Whether that means earning a new degree, making a career change or learning a new skill, those opportunities exist throughout the hospital.

The MGH Institute of Health Professions (IHP), founded by Mass General in 1977 and located in Charlestown Navy Yard, makes achieving these goals possible for students through its degree and certificate programs focused on quality, equal access and inclusivity in health care. Building on more than a century of nursing school leadership at Mass General, the IHP's mission is carried out in the School of Nursing, School of Health and Rehabilitation Sciences and the School of Healthcare Leadership.



"Our mission of educating the next generation of health care leaders is more critical than ever given the complexity of today's health care system."

Paula Milone-Nuzzo, PhD, RN, MGH Institute of Health Professions president

Educational Support for MGH Employees

The MGH Institute of Health Professions' IHP Education Collaborative Incentive Plan offers tuition reductions of between 15% and 40% for select academic programs and all continuing professional development offerings. Scan this code or visit www.mghihp.edu/edcollaborative to learn more.



MGH Institute of Health Professions: Education by the Numbers

13:1 average student/faculty ratio

Students from 43 states and 10 countries

121 full-time faculty

96% graduation rate

1,636 students

97%-100% of entry-level graduates employed in their respective fields within six months of graduation



Take a virtual tour of IHP at

www.mghihp.edu/mgh-institute-campus-tour

Sharing Our History: MGH's Museum and Archives

"Our history reminds us that the road to scientific discovery often isn't straightforward. While we have come a long way, we still have much farther to go."

Sarah Alger, Paul S. Russell, MD Museum of Medical History and Innovation director

Mass General's educational mission encompasses not only trainees and faculty, but also patients, scholars and the community.

The Paul S. Russell, MD Museum of Medical History and Innovation, which opened in 2012 for the hospital's 200th anniversary, is the only freestanding hospital museum in the United States. The Russell Museum aims to inform and inspire patients and their families, students from grade eight through college and visiting health professionals and tourists from the world over. As its name suggests, the museum features artifacts and stories from the hospital's more than two centuries of history, as well as modern innovations. Current visitor favorites include an iron lung, a laparoscopy trainer and a cell sorter.

Programming – paused during the COVID-19 pandemic – included medical simulation sessions run by the MGH Learning Lab. The museum's monthly evening public lecture series features experts in research, clinical care and medical history.

Museum exhibits draw largely from the MGH Archives and Special Collections. The Archives — broadly defined as documents that serve as official records of the institution — span about a quarter mile of shelf space. The Special Collections — art and artifacts of historical significance — number about 2,000. The hospital's archivist fields queries from employees and scholars worldwide. The Archives' most frequently consulted collections are those about the 1846 ether demonstration and the social work service established in 1906 — the first in a U.S. hospital.

For more information about the Archives' holdings or about donating materials, visit russellmuseum.org/archives.





Scan the QR code to visit the MGH Archives and Special Collections online.

Pins from a collection donated by longtime Treadwell librarian Martha Stone

Education at Massachusetts General Hospital: A Brief History

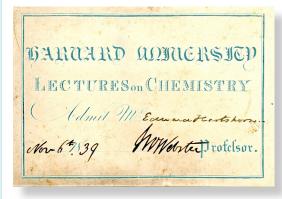
810

In their circular letter to notable Bostonians, appealing for funds to establish a general hospital, MGH co-founders John Collins Warren and James Jackson note the need for educational facilities:

"...[I]t is necessary to have a medical school in New England. All the materials necessary to form this school exist among us. Wealth, abundantly sufficient, can be devoted to the purpose, without any individuals feeling the smallest privation of any, even of the luxuries of life. Everyone is liable to suffer from the want of such a school; everyone may derive, directly or indirectly, the greatest benefits from its establishment." Serving as the first and largest teaching hospital of Harvard Medical School, Mass General has helped shaped medical education for more than two centuries.







Unlike the highly codified medical education system in place in the United States today, Harvard Medical School students of the 1840s bought tickets to lectures held in classroom and hospital settings, including the first successful public demonstration of surgical ether anesthesia. In order to graduate, students had to prove that they attended each required lecture at least twice and that they had studied with a "competent physician" for at least three years. The medical school curriculum was revamped along lines recognizable today in 1869.

200

Physicians-in-training – today known as "residents," then referred to as "house pupils" - are first lodged on the hospital grounds. Quoting from former MGH librarian Grace W. Myers' History of Massachusetts General Hospital, A Continuation: 1872-1900, "If the condition of a patient in a ward became unsatisfactory during the night, the nurse had to go to the house pupils' sleeping room and call the one assigned to duty on her ward." A nurse (Miss Elizabeth Robinson Scoville) of 1878, recalls the close quarters: "A dim twilight reigned in the room, and in summer each bed was shrouded in mosquito netting.... If a stumble was made it roused all the sleepers." The MGH now hosts about 1.500 medical-surgical residents and fellows for training across specialties. Some of the most senior physician faculty still wear the "short" white coat historically worn by medical students and first year-resident "interns" to symbolize that even experienced faculty are always learning at Mass General. All physician faculty have appointments with Harvard Medical School.

0

Based on the principles of Florence Nightingale, Mass General opens what is to become the oldest continuously operating school of nursing in the United States: the **Boston Training** School for Nurses. renamed the Massachusetts General Hospital Training School for Nurses in 1896, and then, the Massachusetts General Hospital School of Nursing. The MGH School of Nursing graduates its last diploma school class in 1981.



Attention to health and nutrition was present from the MGH's earliest days. Mass General inaugurated its first program in dietetics in 1910. Early courses were brief affairs, expanding to six-, eight-, nine- and 10-month courses as the program grew in popularity, settling on a oneyear program by 1934.

Mass General internist Richard Cabot works with pathologist James Homer Wright to adopt a teaching format different from the time period's long lectures: discussions of "actual cases of disease." These diagnostic conferences are then published as Case Records of the Massachusetts General Hospital in the New **England Journal of Medicine** and continue to be renowned and emulated the world over.

Taking its first students in 1941 and graduating its last class in 1967, the Massachusetts General Hospital School of Medical Illustration was a short but influential chapter in the hospital's history. The field of medical illustration — depicting tissues and cells at the microscopic level, human anatomy and surgical procedures – has existed for centuries but made great advances in the early 20th century. Mass General's school was the third in the country, evolving the field from an assortment of self-taught practitioners to a profession with specialized training.



9

From former hospital director Nathanial Faxon's The Massachusetts General Hospital: 1935-1955: "On January 1, 1944, the '9-9-9 Plan' for resident training in hospitals during World War II. promulgated by the Office of Procurement and Assignment, became effective. This plan was arranged to provide resident and intern service in hospitals and to supply to the armed services a large number of partially trained medical officers, needed to fill the lower grades, and a smaller group of officers competent to fill the more exacting positions in all the specialties. The physician faculty. instead of deploring the shrinkage in size and lessened experience of the house staff, adopted as their watchword 'Let us do the best we can with what we've got.' This was the spirit of the entire Hospital. At the Medical School, all students except the few unfit for active service went on active duty in the Army or Navy on July 1."



50 9

"During 1950, arrangements were consummated with the Massachusetts College of Pharmacy to institute a Pharmacy Internship Program. Upon completion of the two-year program, one year of academic instruction and one year of internship, the intern would be granted a Master of Science in Pharmacy degree, from the college, and receive a diploma from the hospital," Faxon noted in his hospital history. In the early 1960s, internships were replaced with a residency program.

Frank Austen, MD, quoted reflecting on his experience treating polio patients in Something in the Ether, "In July, as I was about to go on holiday, Walter Bauer said that he would like me not to go on holiday at that time but to start admitting polio patients along with Jan Kochweser, another resident. We were both first-month assistant residents. Within two weeks, the volume of patients became so great that Bauer and the hospital made two additional decisions. The first was that no private doctor would be allowed to write orders on polio patients; all orders had to be made by Austen and Kochweser, because they were the ones developing on-the-job experience with the disease and they were in direct touch with Louis Weinstein, the acknowledged regional expert."

MGH is awarded degreegranting authority by the Commonwealth of Massachusetts. In 1980, the MGH Institute of Health Professions opens, admitting its first master's students in physical therapy and social work. Certificate and degree-granting programs are now consolidated in the MGH Institute's School of Nursing, School of Health and Rehabilitation Sciences. and the School of Healthcare Leadership — which also now offers advanced degrees in the science of learning through its Health Professions Education program.



The Department of Psychiatry founds the Psychiatry Academy, providing international leadership in education and dissemination of best practices in mental health. Today, the Psychiatry Academy distributes more than 100,000 pieces of educational content each year and includes members from 127 countries.



5

The Youth Scholars, STEM and Senior STEM programs are established by the Mass **General Hospital Center for Community** Health Improvement (CCHI). The CCHI Youth Programs open doors of opportunity and empower young people from Boston, Revere and Chelsea to overcome racial and social injustices. In total, these programs serve more than 1,000 students each year to create a sense of belonging, promote academic achievement and develop the leadership skills needed for students to thrive in school, excel in the workforce and transform the world.

From as early as third through eighth grade, CCHI STEM and Senior STEM clubs aim to spark an interest in science, technology, engineering and math through partnerships with the Boys and Girls Clubs of Boston. From ninth to 12th grade, the emphasis of the Youth Scholars program shifts to educational attainment and college preparation with programming held on the MGH campus. Throughout the college years, the alumni program provides academic coaching as well as the social and emotional support students need to thrive in college and beyond.

Mass General ranks consistently as one of the top employers of the Boston Mayor's Summer Jobs program, providing meaningful summer employment to more than 100 young people per year.



2009

The MGH Learning Laboratory is established to support simulation-based education as a new field of practice and study, expanding opportunities for MGH trainees and staff to engage in routine deliberate and reflective practice for expert performance. The lab provides a central infrastructure to support educational units and teaching fellows across campus and builds on a longstanding collaboration with community partners including the Center for Medical Simulation, a pioneering educational center founded by the anesthesia departments of the Harvardaffiliated hospitals in 1993. Since that time, MGH educators and faculty have played a leading role in developing simulation training locally, nationally and worldwide.





The Lunder-Dineen Health **Education Alliance of Maine** is established with a gift to Mass General from The Lunder Foundation of Portland, Maine, designed to extend Mass General educational expertise to Maine residents and health care professionals.

The MGH and the IHP establish the first interprofessional dedicated education unit in the U.S. Through active observation, this innovative model assists IHP students in recognizing interprofessional collaboration and practice delivered by direct care clinicians. As these students assume roles in health care post-graduation, this education is essential in delivering exemplary teambased clinical care to our patients and families.

The MGH embarks on a multi-year strategic planning process that includes a focus on teaching and education. Resulting recommendations will lead to appointment of an Executive Director for Teaching and Education (2015) and a Chief Learning Officer (2018) to support the education mission across professions.

2020

Mass General teams create and disseminate best-evidence treatment protocols for the COVID-19 pandemic, rapidly training each other and guiding the local, national and international community. Harvard Medical School students' clinical rotations were paused, and eligible students were able to graduate two months early to begin active COVID-19 patient care, and students who could not begin clinical duties immediately organized non-clinical COVID-19 response teams, such as the Harvard Medical School COVID-19 Student

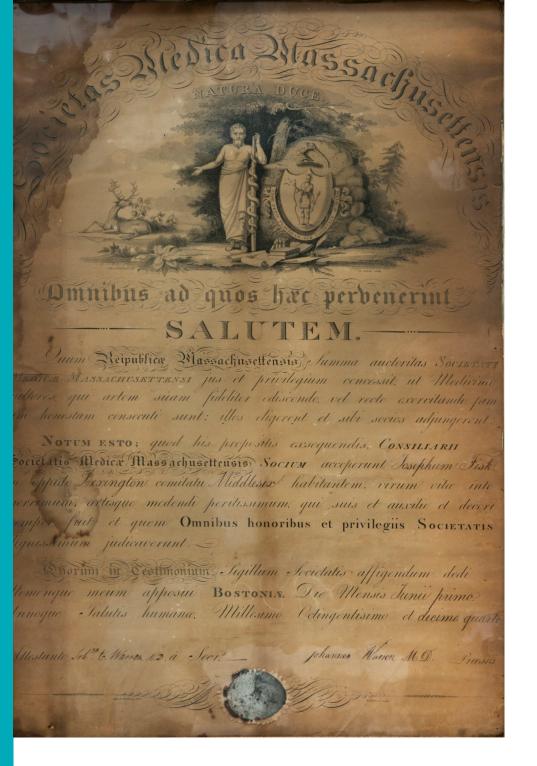
Response Team.

Building on years of leadership work to advance post-graduate clinical nursing education, the MGH Nurse Residency Program is awarded Accreditation with Distinction by the American Nurses Credentialing Center. The nurse training program is the first nurse residency in the city of Boston to achieve this credential, and the first in the nation to receive distinction under the newest accreditation standards. In 2021, an institutional committee was formed to explore an Advanced Practice Fellowship designed to advance specialty training for nurse practitioners.

022

In support of the short- and long-term educational needs articulated as part of the hospital's strategic planning process, MGH received a transformational \$50 million gift from The Lunder Foundation of Portland. Maine that aims to reinvent health care education for the 21st century and ensure the highest quality care for every patient. This commitment - one of the largest ever to support education across the health professions will enhance the training of providers in all roles now and into the future by funding three linked, interdependent initiatives: the Peter L. Slavin, MD Academy for Applied Learning in Health Care; the Lunder Learning Hospital; and the MGH Learning Endowment.





November | 2022

Dear Readers,

We hope you enjoy this special edition of MGH Hotline dedicated to the history, highlights and future of education at Mass General. This is the first installment in a series of special editions that will focus on the pillars of the hospital's mission: teaching, patient care, research and service to the community.

Inside, you'll find the stories of learners, educators and programs that make MGH the model for academic medical centers around the world. Opportunities to learn and grow exist in every corner of our hospital, and we hope this edition of Hotline encourages you to explore them.

Enjoy!

Your Hotline editors

Mass Medical Society Membership Certificate for Dr. Joseph Fiske, who treated the wounded on the Lexington Battle Green in 1775. This certificate – which was acquired by MGH and is now part of its permanent collection of artifacts – was comparable to a license to practice medicine in Massachusetts at the time. It was signed on June 1, 1814 by his teachers, MGH co-founder John Collins Warren and his father, John (Johannes) Warren, a founder of Harvard Medical School.

On the Cover

Bridging the past and future: A rendering of the Cambridge Street building project highlighting a new education conference center, the Russell Museum, the historic Ether Dome and the Lunder Building.

Contact the Hotline Editorial Team: Colleen Delaney, Colleen Farley and Noelle Tardiff
Email: hotline@partners.org Phone: 617-726-2206 Mail: 125 Nashua Street, Suite 220 • Boston, MA 02114