Duke University School of Medicine

The youngest of the nation’s leading medical schools, Duke University School of Medicine is one of the nation’s premier schools for medical education, clinical care and biomedical research. Planning for the school began in 1925, when businessman James Buchanan Duke, benefactor of Duke University and The Duke Endowment, bequeathed $4 million to establish the Duke University School of Medicine, the Duke University School of Nursing and Duke Hospital. Less than five years after the school opened in 1930, the Association of American Medical Colleges ranked Duke in the top quarter of medical schools in the country. Now, more than 80 years later, the Duke University School of Medicine is ranked among the leading medical schools nationally. The medical campus encompasses 98 buildings and employs more than 2,000 academic and clinical faculty physicians and researchers. Twenty-three buildings on approximately 45 acres are dedicated to research and education.

Dean: Nancy C. Andrews, M.D., Ph.D.
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Departments, Centers and Institutes

Clinical Departments
Anesthesiology
Community and Family Medicine
Dermatology
Dermatology
Neurology
Obstetrics and Gynecology
Ophthalmology
Orthopaedic Surgery
Pathology
Pediatrics
Psychiatry & Behavioral Sciences
Radiation Oncology
Radiology
Surgery

Basic Science Departments
Biochemistry
Biostatistics & Bioinformatics
Cell Biology
Immunology
Molecular Genetics and Microbiology
Neurobiology
Pharmacology and Cancer Biology

Centers and Institutes (partial list)
Brain Imaging & Analysis Center
Center for Human Genome Variation
Center for the Study of Aging and Human Development
Duke Cancer Institute
Duke Clinical Research Institute
Duke Global Health Institute
Duke Human Vaccine Institute
Duke Institute for Brain Sciences
Duke Institute for Genome Sciences and Policy
Duke Institute for Molecular Physiology
Duke Translational Medicine Institute
Trent Center for Bioethics, Humanities & History of Medicine
Robert Lefkowitz, M.D., professor of medicine at Duke University School of Medicine and a Howard Hughes Medical Institute investigator, has spent his entire 40-year research career at Duke. In 2012, he was awarded the Nobel Prize in Chemistry with Brian K. Kobilka, M.D., of Stanford University School of Medicine, who was a post-doctoral fellow in Dr. Lefkowitz’s lab in the 1980s. They were recognized for their work on a class of cell surface receptors that have become the target of prescription drugs, including antihistamines, ulcer drugs and beta blockers to relieve hypertension, angina and coronary disease.
Duke has blazed trails in research and patient care for more than eight decades.

1936
A Duke surgeon introduces ultraviolet lamps into operating rooms to kill airborne germs that cause post-operative Staph infections—dramatically reducing the number of infections and related deaths.

1950
A Duke pediatrician leads the push for drug companies to develop the child-proof safety cap for medicine bottles.

1956
Duke becomes the first to use systemic hypothermia during cardiac surgery. This technique of cooling patients to minimize tissue damage during lengthy surgical procedures is now standard practice worldwide.

1968
Irwin Fridovich, Ph.D., and graduate student Joe McCord discover the enzyme superoxide dismutase, which protects all living things against the toxicity of oxygen.

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1982
Pediatric immunologist Rebecca Buckley, M.D., uses bone marrow transplant to cure severe combined immunodeficiency, also known as “bubble boy disease.”

1985
Duke becomes one of two hospitals to conduct the first human clinical trials of AZT, the first drug to substantially improve quality of life for AIDS patients.

1990
Duke researchers discover a gene that increases people’s risk of developing the most common form of Alzheimer disease, showing for the first time that it can be inherited.

1993
Duke Comprehensive Cancer Center (now Duke Cancer Institute) develops the nation’s first outpatient bone-marrow transplantation program.

1994
Pediatric immunologist Louise Markert, M.D., Ph.D., uses thymus transplant to cure once-fatal complete DiGeorge Syndrome.

2003
Duke researchers demonstrate for the first time that magnetic resonance technology could be used to observe the effects of a medication on brain structures, an important first step toward improving drug research for treating Alzheimer disease.

2005
Researchers at Duke and Vanderbilt universities discover the first major gene known to determine an individual’s risk for developing age-related macular degeneration, the leading cause of visual impairment and legal blindness in the elderly.

2006
The FDA approves Myozyme, the first lifesaving treatment for children with Pompe disease. The treatment was discovered and developed at Duke.

2011
Hai Yan, M.D., Ph.D., and a team of scientists from Duke and Johns Hopkins universities identify mutations in a gene that makes cells immortal and appear to play a pivotal role in three of the most common types of brain tumors, as well as cancers of the liver, tongue and urinary tract.
The School of Medicine includes the research efforts of basic science and clinical faculty members in 33 departments, centers and institutes. Their combined efforts make Duke one of the largest biomedical research enterprises in the country, with more than $600 million in sponsored research expenditures annually and more than 9,743 patients on 654 active clinical trials.

The world’s largest academic clinical research organization, the Duke Clinical Research Institute, has conducted studies at more than 37,000 sites in 65 countries, enrolling more than 1.2 million patients and generating more than 7,300 publications in peer-reviewed journals.

**2012**

Bart Haynes, M.D., leads the world’s largest HIV vaccine trial, which provides important clues about immune system responses that could play a role in protecting people from HIV infection.

Robert Lefkowitz, M.D., is awarded the Nobel Prize for Chemistry with Brian Kobilka, M.D., for their work on G-protein-coupled receptors, which allow cells to sense light, flavor, odor and receive signals from hormones and neurotransmitters.

**2013**

Physician-scientist Jeffery Lawson, M.D., Ph.D., and Laura Niklason, M.D., Ph.D., of Yale School of Medicine, develop a bioengineered blood vessel, which Lawson grafted into an artery in a Duke patient’s arm, the first in-human procedure of its kind in the United States.

Duke researcher David Goldstein, Ph.D., identifies two new genes and implicates 25 distinct mutations in serious forms of epilepsy, suggesting a new direction for developing tailored treatments of the neurological disorders.
Students

MD Students .............................................. 449
Medical and Health Profession Students ......... 541
(PA, Pathology Assistant, Clinical Research Program,
Clinical Leadership Program, Masters in Biostatistics,
Doctor of Physical Therapy, Ophthalmic Tech)
PhD Students in biomedical programs .......... 641
(MSTP students included)
Graduate Medical Education ....................... 998
(Residents and Fellows)
MD Students at Duke-NUS Graduate Medical School (2013-2014) 241

School of Medicine
Educational Programs

Doctor of Medicine
Medical Scientist Training Program
(MD/PhD Program)
MHS - Physician Assistant Program
Doctor of Physical Therapy Program
MHS - Clinical Leadership Program
MHS - Clinical Research Program
MHS - Pathology Assistant Program
Masters in Biostatistics
Ophthalmic Tech certificate

Biomedical Graduate & Certificate Programs

Graduate Programs in the Basic Science Departments
Biochemistry (BCH)
Biostatistics & Bioinformatics
(Note: Master’s Degree Program Only)
Cell Biology (CBI)
Immunology (IMM)
Molecular Genetics & Microbiology (MGM)
Neurobiology (NBI)
Pathology (PTH)
Pharmacology & Cancer Biology (PCB)

Interdisciplinary Graduate Programs
Cell and Molecular Biology (CMB)
Computational Biology and Bioinformatics (CBB)
Cognitive Neuroscience
Developmental and Stem Cell Biology (DSCB)
Integrated Toxicology and Environmental Health Program (ITEHP)
Medical Physics
Medical Scientist Training Program (MSTP)
Molecular Cancer Biology (MCB)
Pharmacological Sciences Training Program (PSTP)
Structural Biology and Biophysics (SBB)
University Program in Genetics and Genomics (UPGG)

2013 Entering Class

4962 Applications received
113 Students
3.73/4.0 Mean GPA
35/45 Mean MCAT scores
58 Men
55 Women
23% Under-represented minority students
34 States represented
52 Undergraduate institutions
The Duke University School of Medicine’s unique curriculum allows medical students to study the core basic sciences for one year instead of two, giving them the opportunity to devote their entire third year to a scholarly research project. Students care for patients during their second year core rotations, a full year earlier than their peers at other medical schools.

The new Mary Duke Biddle Trent Semans Center for Health Education opened in January 2013 as the first new home dedicated to medical education since the school opened in 1930. This state-of-the-art building was paid for almost entirely by philanthropy. The building consists of six floors and includes simulation labs and three fully equipped operating/ICU rooms and twelve clinical exam rooms.

The School of Medicine offers a unique 4-year Primary Care Leadership Track to train leaders who can enter residency prepared to engage with communities and practices to help improve health outcomes. The track builds on the longstanding partnership between Duke and the Durham community to understand causes of health disparities, create a strong research focus on community engagement, and learn how to redesign clinical programs to better serve the patient needs.

Approximately 14 percent of Duke medical students are enrolled in the Medical Scientist Training Program, which culminates in both a medical degree and a doctoral degree in natural sciences or engineering. One of 44 such programs funded by the National Institutes of Health (NIH), the Duke MSTP was one of the first three established by the NIH in 1966.

The Physician Assistant (PA) profession originated at Duke University School of Medicine in the mid-1960s under the leadership of Dr. Eugene A. Stead Jr., then chairman of the Department of Medicine. Today, Duke’s PA program is ranked number one in the country by U.S. News & World Report.

In 2005, Duke and the National University of Singapore (NUS) signed a formal agreement to partner in establishing a new graduate-entry medical school in Singapore based on the Duke curriculum model. The Duke-NUS Graduate Medical School Singapore (Duke-NUS) is renowned for its pioneering approach to team-based learning and its signature research programs. Its inaugural class matriculated in August 2007. In 2010, the school launched a PhD program. Duke-NUS graduated its first class in 2011 with joint MD degrees from Duke and NUS.
<table>
<thead>
<tr>
<th>Service</th>
<th>Duke University Hospital</th>
<th>Duke Raleigh Hospital</th>
<th>Duke Regional Hospital &amp; Davis Ambulatory Surgical Center</th>
<th>Duke Home Care and Hospice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient Admissions</td>
<td>37,365</td>
<td>7,796</td>
<td>14,732</td>
<td>703</td>
</tr>
<tr>
<td>Outpatient Visits</td>
<td>995,984</td>
<td>146,143</td>
<td>111,646</td>
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<tr>
<td>Surgical Procedures, including Endoscopy</td>
<td>51,742</td>
<td>6,923</td>
<td>18,038</td>
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</tbody>
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Figures are for Duke University Health System (including Duke University Hospital, Duke University Medical Center, Duke Regional Hospital, Duke Raleigh Hospital, Duke HomeCare & Hospice, Duke University Affiliated Physicians) for fiscal year 2013 unless otherwise indicated.
Duke University Health System
full-time employees: 16,318 plus 1,004 in the Private Diagnostic Clinic

- Duke University Hospital
- Duke Regional Hospital
- Duke Raleigh Hospital
- Duke HomeCare & Hospice
- Duke Primary Care
- Duke Health & Wellness
- Private Diagnostic Clinic

Affiliated Programs –

Duke University Hospital

Emergency Department Visits ...... 67,622
Patients transported by
LifeFlight (excludes ground) .............. 863
Number of surgical cases ................. 37,322
Hospital Lab Procedures ............ 5,552,204
Babies Delivered ...................... 3,016
Cardiac Catheterizations
(adult/pediatric/mobile) .............. 5,784
Cardiac Catheterizations
in mobile units .................. 100
Angioplasties .................. 928

Open Heart Surgeries
Adult .................................. 1,079
Pediatric .................................. 115
Thoracic .................................. 1,247
* Includes - Lung (637), Esophageal (179), and Other (431)

Organ Transplants
Kidney .................................. 82
Pancreas .................................. 4 SPK
* SPK - Simultaneous Pancreas/Kidney
Lung ................................... 133
Heart ................................... 62
Liver ................................... 62
Outreach

As a world-class academic and health care system, Duke University Health System (DUHS), Duke University School of Medicine and Duke University School of Nursing strive to transform medicine and health locally and globally through innovative scientific research, rapid translation of breakthrough discoveries, educating future clinical and scientific leaders, advocating and practicing evidence-based medicine to improve community health, and leading efforts to eliminate health inequalities. For the fiscal year ended June 30, 2012, Duke provided $291 million in community benefit and community investment.

Community Partnerships

Duke works with many community partners to improve health care locally. Examples of outreach programs include:

- **The City of Medicine Academy** is a unique high school located in Durham that provides students with a challenging academic program while providing them with a broad overview of health professions and potential careers in medicine, science, and research. Duke University School of Medicine and Health System faculty, staff and students lend their expertise to projects and classroom lectures. Resources across Duke University, the School of Medicine, and the Health System help maximize the student’s learning experience through summer internships, field trips, and after school programs.

- **Primary Care Wellness Centers within Durham public schools** serve mostly low-income students at George Watts Elementary, Glenn Elementary, EK Powe Elementary, and Southern High schools. Clinics operate during the school year and provide medical and mental health services. The elementary school clinics also provide bilingual mental health services. All four Wellness Centers offer medical coverage during weekends and school holidays.

- **Since 2002, Duke has hosted the Durham Health Summit.** The summits focus on bringing together members of the Durham community to eliminate barriers to health access, develop strategies to address issues identified by the community and promote a health community.

- **Partnership for a Healthy Durham is a coalition of local agencies and communities with the goal of collaboratively improving the physical, mental, and social health and well-being of Durham residents.** The six health priorities identified by the coalition are: obesity and chronic illness; access to medical and dental care; mental health and substance abuse; HIV and sexually transmitted infections; poverty; and education.
Global Initiatives

Duke’s Global Health Institute (DGHI) is a university-wide effort to address health disparities worldwide through multidisciplinary research, education, policy engagement, and service. It is one of many institutes that comprise the School of Medicine.

Research

- Almost half of the DGHI faculty are from the School of Medicine.
- DGHI faculty are leading more than 300 active global health research projects in 42 countries.
- The results of more than 60 of these projects have direct implications for global health policy or practice.
- DGHI faculty have published more than 320 articles in leading academic journals.

Student Field Projects

- Total number of student project placements in 2012: 62 student projects in 21 countries

DGHI’s Primary Goals Are:

1. Become the worldwide leader in interdisciplinary global health education
2. Catalyze and conduct innovative research that responds to the changing global burden of disease and influences policy
3. Create a robust network of international partners to exchange global health knowledge and skills

Priority Locations

DGHI’s education, research, and capacity building initiatives are built on a strong network of partnerships with institutions around the world in priority locations. Priority locations provide opportunities for faculty and students and are based on a bidirectional, mutually-beneficial relationship with partners and institutions. DGHI has invested in capacity-building, research, and education program development in a number of strategically-important locations:

- Beijing, China
- Kunshan, China
- Shanghai, China
- Leogane, Haiti
- Delhi, India
- Eldoret, Kenya
- Singapore
- Galle, Sri Lanka
- Moshi, Tanzania
- Kampala, Uganda
Core Values of Duke University
School of Medicine

• Excellence in education, research and patient care
• Respect for and inclusion of people from all backgrounds
• Commitment to service and solving real world problems
• Sense of urgency in transforming discoveries into improved human health