

## Clinical overview

**Income** \$390.6 million<sup>§</sup>

**Clinical departments** 18

**Yale Medical Group**

**Office visits**

**323,532**

**Patient encounters**

**1,331,353**

**Physicians**

**Full-time 737**

**Part-time 117**

**Midlevel practitioners (PA, APRN)**

**159**

**Medical residents** 662

**Clinical fellows** 238

**Affiliated hospitals** 8

**Yale-New Haven Hospital**

**Patient discharges** 54,507

**Newborns** 4,646

**Emergency visits** 132,565

**Adult beds** 670

**Pediatric beds** 95

**Bassinets** 92

**Psychiatric beds** 87

**Total beds** 944

## PATIENT CARE

More than 800 Yale physicians provide primary and specialty care for patients through Yale Medical Group. Yale Medical Group delivers advanced care in more than 160 specialties and subspecialties, and has centers of excellence in such fields as cancer, cardiac care, minimally invasive surgery, and organ transplantation. Yale physicians have made many historical contributions, including the first use of cancer chemotherapy, the first artificial heart pump and the first insulin infusion pump for diabetes. Today they perform groundbreaking procedures, including Connecticut's first appendectomy without an abdominal incision. They engage in translational research to offer new therapies, such as the development of man-made vascular grafts that have the ability to grow from a patient's own tissue. Yale Medical Group is a major referral center for Connecticut and New England, and treats patients from throughout the world.



The physicians of Yale Medical Group conducted some 323,000 patient visits in 2009, providing services in more than 160 specialties and subspecialties.

## Medical center institutions

**Yale School of Medicine**

**Yale Cancer Center**

**Yale Child Study Center**

**Yale Medical Group**

**Yale School of Public Health**

**Yale School of Nursing**

**Yale University Health Services**

**Yale-New Haven Hospital, Children's Hospital, Psychiatric Hospital, and Smilow Cancer Hospital**

**Yale New Haven Health System**

**Connecticut Mental Health Center**

**VA Connecticut Healthcare System**

**John B. Pierce Laboratory**

This fact sheet was produced by the Office of Institutional Planning and Communications. To order copies, contact us at 300 George Street, Suite 773, New Haven, CT 06511 or (203) 785-5824, or by e-mail at facts.med@yale.edu. On the Web: facts.med.yale.edu. Data are as of 9/30/09 unless otherwise noted.

Photos: John Curtis, Robert A. Lisak, Michael Marsland, William K. Sacco, and Yale University Library/Manuscripts & Archives

## MEDICAL CENTER

An affiliation agreement between the medical school and Grace-New Haven Hospital in 1965 created Yale-New Haven Hospital, which expanded in 1993 with the opening of the Children's Hospital and again in 2000 with the acquisition of the Psychiatric Hospital. The 14-story Smilow Cancer Hospital opened in fall 2009. The medical campus has grown over the years to include or abut the institutions listed at left. Four miles away in West Haven, the affiliated VA Connecticut Healthcare System maintains active clinical, research, and education programs in conjunction with many medical school departments. Extensive maps and directions to medical center destinations are available online at [medicine.yale.edu/maps](http://medicine.yale.edu/maps).

## HOW TO REACH US

- **To find a Yale doctor**, visit the Yale Medical Group online at [yalemedicalgroup.org](http://yalemedicalgroup.org), or call (877) YALEMDS or (203) 785-4851.
- **For information on medical school admissions**, visit [medicine.yale.edu/admissions](http://medicine.yale.edu/admissions), or call (203) 785-2643.
- **For news about the school**, visit [medicine.yale.edu](http://medicine.yale.edu). Media inquiries should be directed to the Office of Public Affairs at (203) 432-1345.
- **To find a person at Yale University**, consult the online directory at [yale.edu/phonebook](http://yale.edu/phonebook), or call directory assistance at (203) 432-4771. To find a person at Yale-New Haven Hospital, call (203) 688-4242.
- **To give to the School of Medicine**, please visit [yale.edu/givemedicine](http://yale.edu/givemedicine) or call Jancy Houck at (203) 436-8560.

## New Haven

**Population (2009)** 127,401

**Distance from:**

**NYC** 80 miles

**Boston** 137 miles

## University profile

**FACULTY**

**Yale** 3,695

**YSM** 2,055

**STAFF**

**Yale** 9,267

**YSM** 3,244

**STUDENTS**

**Yale** 11,593

**YSM** 1,198

**OPERATING REVENUE**

**Yale** \$2.49 billion

**YSM** \$1.1 billion

## Community service

The majority of students volunteer for at least one of the school's many community service projects, including:

**Hill Regional Career High School partnership**

**Anatomy Teaching Program**

**Hunger and Homelessness Auction**

**HAVEN (student-run free clinic)**

**Free care provided to New Haven residents in 2009: \$8.6 million**

## YALE UNIVERSITY AND NEW HAVEN

The School of Medicine is located immediately adjacent to the main campus of Yale University, one of the world's great institutions of higher learning. With a residential college system modeled after those of Cambridge and Oxford, the undergraduate school is complemented by the Graduate School of Arts and Sciences and 12 professional schools, including Architecture, Art, Divinity, Drama, Engineering and Applied Science, Forestry and Environmental Studies, Law, Management, Music, Nursing, and Medicine which includes the School of Public Health. In 2007, Yale acquired the 136-acre West Campus in West Haven, which contains 460,000 square feet of lab space.

Established in 1638, New Haven was the first planned municipality in America, organized geographically in nine squares, including a picturesque Green. Today, New Haven is a vibrant coastal city located on Long Island Sound between New York and Boston. Cultural opportunities abound, from dance, theater and music to the treasures of Yale's art and natural history museums.



The leaders of Yale University, the School of Medicine, Yale-New Haven Hospital, Yale Cancer Center, and the city of New Haven, celebrated the opening of Smilow Cancer Hospital in October 2009. The hospital is named for benefactors Joel and Joan Smilow, third and fourth from left.

## Endowment

**(6/30/09)**

**Yale** \$16.1 billion

**YSM** \$1.4 billion

**2009 capital projects (in millions)**

**NEW CONSTRUCTION**

**Yale** \$333.8

**YSM** \$25.4

**RENOVATIONS & ALTERATIONS**

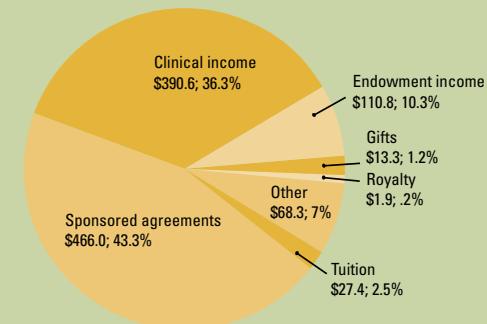
**Yale** \$214.1

**YSM** \$13.4

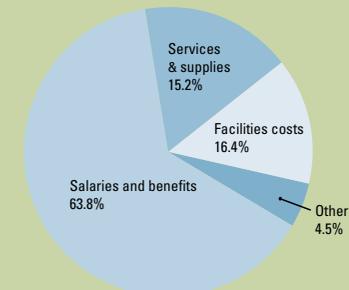
## Operating summary for the year ending June 30, 2009

### Income

**Total \$1.1 billion**



### Expenditures



# Yale SCHOOL OF MEDICINE

FACTS AND FIGURES 2010  
[facts.med.yale.edu](http://facts.med.yale.edu)



<sup>§</sup> Clinical revenue and office visit data are for the year ending 6/30/09.

## Brief chronology

**1701** Yale College founded

**1723** Yale College awards first medical degree (honorary) in North America

**1810** Medical Institution of Yale College chartered

**1811** Nathan Smith, Benjamin Silliman, Eneas Munson, and Jonathan Knight are recruited as founding faculty

**1813** Classes begin with 37 students enrolled in the six-month program; tuition for full course of lectures is \$50

**1833** The State Hospital, precursor to the New Haven Hospital, opens

**1839** MD student thesis requirement formalized

**1857** First African American student graduates

**1910** Flexner Report recommends Yale as one of two New England medical schools worthy of continued existence, spurring expansion of facilities, fundraising, and full-time faculty system

**1915** Department of Public Health established and later accredited as a school of public health

**1916** First female students admitted

**1920** Milton C. Winternitz named dean, beginning period of major expansion and creation of Yale system of medical education

## OVERVIEW AND HISTORY

The Yale School of Medicine is one of the world's leading centers for biomedical research, advanced clinical care and medical education.

It ranks fifth among medical schools receiving funds from the National Institutes of Health (NIH) and first in NIH dollars per faculty member. More than 800 Yale physicians provide care to patients from across the region and around the world. The Yale system of medical education, with its emphasis on critical thinking and independent student research, has produced leaders in every field of academic medicine.

The sixth-oldest medical school in the United States, the school was established by the Connecticut General Assembly in 1810 when it chartered the Medical Institution of Yale College, located first on Grove Street, then at 150 York Street. Since 1924, it has occupied Sterling Hall of Medicine at 333 Cedar Street and surrounding buildings. It has awarded 8,218 medical degrees since 1814. There are 5,116 living alumni with MD degrees, 3,918 with MPH degrees and 940 alumni of the Physician Associate Program with PA-C or MMSc degrees.

COVER: Sterling Hall of Medicine.

BELOW: The medical school's first home, on Grove Street in New Haven.



## BICENTENNIAL YEAR

The School of Medicine is celebrating its Bicentennial in 2010–2011 with a series of lectures and special publications, a documentary film, a community fair, and a symposium exploring the biomedical sciences. An illustrated book about the school, "Medicine at Yale: The First 200 Years," will be available from Yale University Press in November 2010.

The Bicentennial provides an opportunity to reflect on the achievements of the past two centuries and the ways in which medicine has changed since 1810. Then, life expectancy in New Haven was less than 40 years, and medical knowledge was derived from concepts that have long since been discounted. During the school's evolution, a largely unscientific occupation handed down through apprenticeship has become one of the most education-intensive, rigorously scientific, and highly regulated professions.

As American medicine looks ahead to improving health care, unraveling the mysteries underlying disease, and optimally preparing the doctors of the coming decades, Yale will continue to meet the challenges of a changing medical landscape.

**1924** School moves from 150 York Street to Sterling Hall of Medicine at 333 Cedar Street

**1941** Yale Medical Library is dedicated

**1945** The New Haven Hospital merges with Grace Hospital, becoming Grace-New Haven Community Hospital

**1955** Edward S. Harkness Hall opens, providing dormitory and dining facilities

**1963** Coat of Arms adopted

**1965** Medical school and hospital revise their affiliation, creating Yale-New Haven Hospital

**1965** Laboratory of Epidemiology and Public Health dedicated

**1966** Connecticut Mental Health Center opens as partnership between Yale and state of Connecticut

**1970** Physician Associate Program founded

**1974** Yale Cancer Center established

**1981** Yale Faculty Practice Plan formed, precursor to Yale Medical Group

**1991** Boyer Center for Molecular Medicine completed

**1993** Yale-New Haven Children's Hospital opens

**2003** Anlyan Center completed

**2007** Amistad Street building opens

**2007** West Campus acquired

**2009** Smilow Cancer Hospital at Yale-New Haven opens



The annual poster session for the Downs International Health Student Travel Fellowship Program highlights student research conducted around the world.

## Students by degree program\*

<b>MD</b>	<b>373</b>
<b>MD/PHD</b>	<b>88</b>
<b>MD/MHS</b>	<b>33</b>
<b>MD/JD</b>	<b>1</b>
<b>MD/MBA</b>	<b>7</b>
<b>MD/MPH</b>	<b>1</b>
<b>MMSc (PA-C)</b>	<b>69</b>
<b>MPH</b>	<b>229</b>
<b>PHD</b>	<b>310</b>
<b>Total</b>	<b>1,111</b>

## MD program details

### Class of 2013 profile

<b>Applicants</b>	<b>4,081</b>
<b>Class size</b>	<b>99</b>
<b>Acceptance rate</b>	<b>6.5%</b>
<b>Average GPA</b>	<b>3.8</b>
<b>MCAT mean of sections</b>	<b>11.9</b>
<b>Male-to-female ratio</b>	<b>52 to 47</b>
<b>Faculty-to-student ratio</b>	<b>2.9 to 1</b>

**Tuition, 2009–2010**

<b>Average debt, 2009 graduates w/debt</b>	<b>\$132,013</b>
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## Medical Library

<b>Volumes</b>	<b>462,000</b>
<b>Journals</b>	<b>6,300</b>

## EDUCATION

In its MD and other degree programs, the School of Medicine educates future leaders in medicine, public health, and biomedical science. The MD program follows a unique educational philosophy, the Yale system of medical education, which was established in the 1920s by Dean Milton C. Winternitz, MD. No course grades or class rankings are given in the first two years, examinations are limited, and students are expected to engage in independent investigation. Since 1839 Yale medical students have written a thesis based on original research. The thesis requirement grew out of the recognition that the scientific process of investigation, attentive observation, interpretation of data, and critical evaluation of literature are fundamental to the practice of medicine.

About half of Yale medical students opt to take a tuition-free fifth year to complete their studies. Some pursue in-depth research or explore clinical electives and subinternships. Some 20 to 25 students each year are awarded fifth-year research fellowships from Yale and organizations including the Howard Hughes Medical Institute, the Sarnoff Foundation, and the Doris Duke Charitable Foundation. A living stipend is included. Students on funded fellowships also receive an MHS degree. The MD/MHS program offers access to resources and faculty guidance, but students design their own projects.

Each year, approximately 12 students enroll in the school's MD/PHD Program, one of the original Medical Scientist Training Programs established and funded by the NIH. Graduate students in the Combined Program in the Biomedical and Biological Sciences earn a PHD degree through the Faculty of Arts and Sciences. The School of Medicine also offers joint degree programs with other professional schools including Public Health, Law, Management, and Divinity.

\*Of the 373 students enrolled in the MD Program, 35 are currently on extended study pursuing academic research, clinical rotations or a combination of both.

## Research activity

**2,033 awards\*\* totaling \$557.9 million**

## NIH

**Awards \$322.6 million**  
**Rank among medical schools, total grant dollars** 5  
**Rank, grant dollars per faculty member** 1  
**Centers and Programs** 40

**Basic science departments** 11

## Active patents

**U.S.** 352  
**World** 627

**Yale-founded biotech companies** 45

**Laboratory space (sf)†**

**Medical School** 570,054

## Faculty profile

**Teaching (ladder)** 1,150  
**Research** 551  
**Lecturer/Instructor** 354

*Subtotal* 2,055

**Visiting** 96  
**Emeritus/Retired** 199  
**Voluntary/Adjunct** 1,610

*Subtotal* 1,905

**Total** 3,960

**Postdocs** 1,350

**Memberships‡**

**National Academy of Sciences** 59

**Institute of Medicine** 39

**NIH study section members** 54

**HHMI investigators** 16

\*\* Research award data are for Yale's fiscal year ending 6/30/09. NIH ranking is for the federal fiscal year ending 9/30/09, per faculty rank averaged over 2008 and 2009.

† Net assignable.

‡ Data as of 12/31/09. Includes the Faculty of Arts and Sciences and the graduate and professional schools.

## BASIC AND TRANSLATIONAL RESEARCH

Research at the medical school covers a broad spectrum, from fundamental studies in the life sciences, including cell biology, genetics, immunobiology, microbial pathogenesis, neuroscience, pharmacology, physiology, biophysics and biochemistry, to translational and clinical studies aimed at improving the diagnosis and treatment of human diseases. Funding for research has increased substantially over the past decade, rising from \$321.4 million in 2000 to \$557.9 million in 2009.

The school's core research resources are built around the newest technologies:

- State-of-the-art tools for genomics and proteomics, including whole-genome sequencing and mass spectrometry
- High-resolution imaging and image analysis at every scale, from electron and light microscopy to fMRI and PET
- 7-Tesla MR spectroscopy
- High-throughput screening, including RNAi and chemical screens
- Construction and analysis of animal models of disease



The medical school's core facilities provide researchers with access to the latest equipment and techniques, such as the rapid whole-genome sequencing available at the Yale Center for Genomic Analysis.

## The Robert Wood Johnson Clinical Scholars Program at Yale

was established in 1974 to prepare future physician leaders who will improve health and health care. Graduates of the two-year fellowship earn a master of health sciences research (MHS) degree.

**The School of Public Health** offers training and conducts research in biostatistics, chronic disease epidemiology, environmental health sciences, epidemiology of microbial diseases, and health policy and administration.

**The Investigative Medicine Program** awards a PHD degree to holders of MD degrees who pursue training in either laboratory-based or clinically based human investigation.

## By the numbers

**RWJ Scholars trained since 1974** 137  
**PHDs awarded by Investigative Medicine Program (since 2003)** 17  
**YCCI Scholars trained since 2006** 39

## CLINICAL INVESTIGATION

Clinical investigation at Yale bridges the gap between the basic and translational sciences and the practice of medicine. Research is focused on the factors that affect health and illness in populations, the evaluation of therapeutic interventions, and the assessment of health outcomes based on analysis of large data sets. The School of Medicine sponsors a wide range of clinical trials, with more than 275 open trials listed in its public database in early 2010. The school offers superb training for clinical investigators in a number of settings, including the Yale Center for Clinical Investigation, the Robert Wood Johnson Clinical Scholars Program at Yale, the Yale School of Public Health, and the Investigative Medicine Program, along with discipline-specific training initiatives in selected departments.

The Yale Center for Clinical Investigation facilitates the training of clinical and translational scientists and provides infrastructure for innovative and collaborative research directed at improving patient care. It funds up to 10 YCCI Scholars yearly and supports investigators in the areas of biostatistics, bioinformatics, study design, core technologies, regulatory review, patient recruitment, and community engagement.



Robert Sherwin, M.D., is director and Tesheia Johnson, M.B.A., M.H.S., is chief operating officer of the Yale Center for Clinical Investigation.