

**2010**

**THE IMPACT OF MEDICAL EDUCATION  
ON THE STATE OF NEW YORK**

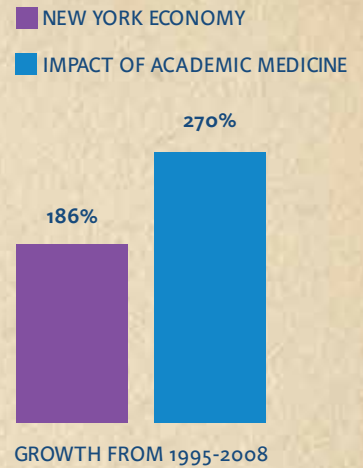
**The Associated Medical Schools of New York (AMSNY)** is a consortium of the fifteen public and private medical schools in New York State:

- Albany Medical College
- Albert Einstein College of Medicine of Yeshiva University
- Columbia University College of Physicians & Surgeons
- Mount Sinai School of Medicine
- New York College of Osteopathic Medicine
- New York Medical College
- New York University School of Medicine
- Sophie Davis School of Biomedical Education at City University of New York
- State University of New York Downstate Medical Center
- State University of New York Upstate Medical University
- Stony Brook University Medical Center
- Touro College of Osteopathic Medicine
- University at Buffalo State University of New York School of Medicine and Biomedical Sciences
- University of Rochester School of Medicine and Dentistry
- Weill Cornell Medical College



## EXECUTIVE SUMMARY

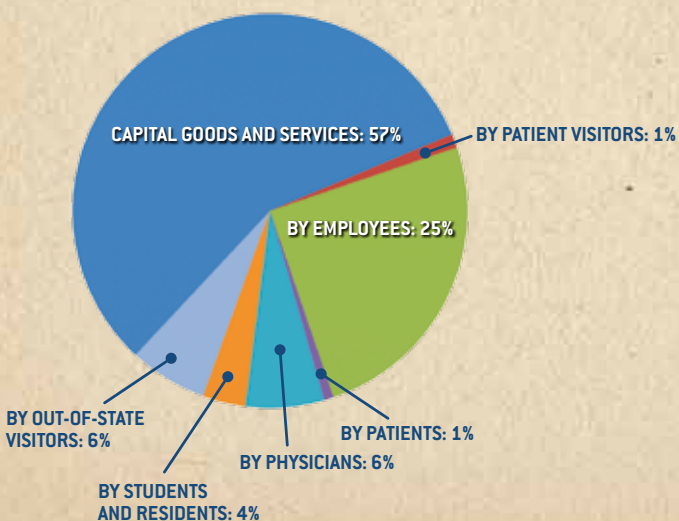
Academic medical centers<sup>1</sup> are major economic drivers in the U.S. economy. New York is home to 15 medical schools and 82 affiliated hospitals. These institutions not only provide countless social benefits, they also provide substantial economic benefits. In 1995, Tripp Umbach estimated the total economic impact of the New York State (NYS) academic medical centers as being \$32 billion or approximately 5% of the State's economy. Between 1995 and 2008, the economic impact of these institutions grew by 270%, while the overall New York State economy grew by only 186%. Therefore, the impact of New York's academic medical centers has grown faster than the overall New York economy by 50% over a thirteen-year period.



## IN 2008:

- The combined total economic impact of New York's medical schools and primary hospital affiliates on the State of New York equals more than **\$85.6 billion**. **\$1 in every \$13 in the New York economy** is related to these institutions.
- AMSNY member medical schools and primary hospital affiliates support nearly **694,000 full-time equivalent jobs** directly and indirectly throughout the State of New York. **One in every 11 jobs** in New York State is supported by the medical schools and teaching hospitals. Nationally, this number is one in 46.
- Collectively, AMSNY member medical schools and the primary hospital affiliates generate nearly **\$4.2 billion in taxes for the State of New York** through income, sales, corporate income, and capital stock/franchise taxes. **\$1 in every \$14 in taxes collected by the State of New York** are generated by New York State's medical schools and primary hospital affiliates.
- New York medical schools and primary hospital affiliates generate over **\$3.1 billion in medical tourism** by attracting out-of-state patients, visitors, and conference attendees. They also attract international dollars from outside of the U.S., in the areas of medical research and clinical expertise.
- Research efforts at New York State medical schools and primary hospital affiliates generate **\$7.45 billion** for the economy on an annual basis for the State of New York.
- For every dollar in research funding invested in medical schools in the State, **New York State receives a return of \$7.50**.

## DIRECT ECONOMIC IMPACT OF MEDICAL EDUCATION ON THE STATE OF NEW YORK, 2008



<b>Total Economic Impact (including multiplier)</b>	<b>\$85.6 billion</b>
<b>Direct Economic Impact</b>	<b>\$37.2 billion</b>
<b>In-State Spending:</b>	
On Capital and Goods and Services	\$21.1 billion
By Employees (non-physicians)	\$9.3 billion
By Physicians	\$2.4 billion
By Students and Residents	\$1.3 billion
By Patients	\$286.9 million
By Patient Visitors	\$416.9 million
By Out-of-state Visitors	\$2.4 billion
<b>Indirect Economic Impact</b>	<b>\$48.4 billion</b>

## KEY FINDINGS

### STATEWIDE ECONOMIC IMPACT

In 2008, New York's academic medical centers, the fifteen medical schools and all primary teaching hospital affiliates in New York, had a combined State economic impact of over **\$85.6 billion**. With the total New York State business volume in 2008 of approximately **\$1.1 trillion**, New York's academic medical centers account for **8%** of the State's economy.

This economic impact<sup>2</sup> is comprised of **\$37.2 billion** in direct business volume impact and a further **\$48.4 billion** in indirect economic impacts accruing to the economy through the multiplier.

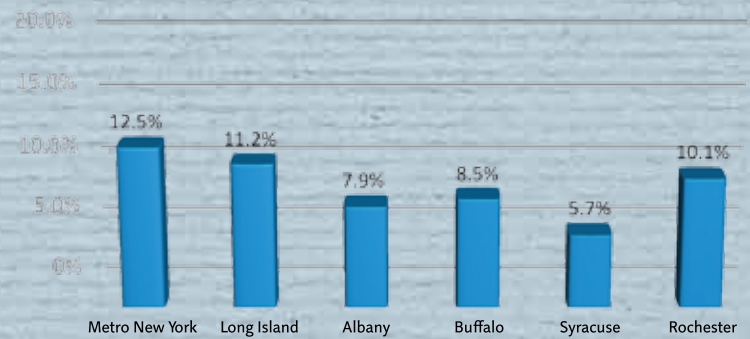
The economic impact of the medical schools and affiliated teaching hospitals in the State of New York is presented in this report on six separate geographic levels.<sup>3</sup>

### STATEWIDE EMPLOYMENT IMPACT

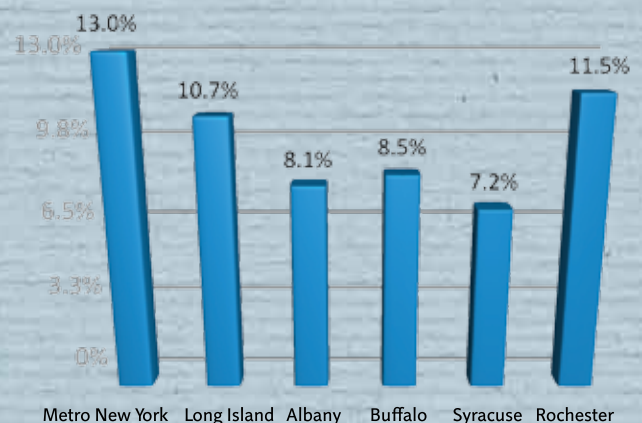
Collectively in 2008, New York State's medical schools and their primary hospital affiliates directly employed more than **385,000 New York residents**. However, their total impact on statewide and regional employment is far greater. For every person directly employed at one of the member medical schools or primary hospital affiliates, approximately one additional FTE is supported within the State's economy. Therefore, nearly **694,000 FTEs** (direct and indirect) in New York, which includes over **138,000 FTEs** (direct and indirect) in the Upstate Region and another **555,000 FTEs** (direct and indirect) in the Downstate Region<sup>4</sup>, are attributable to the operations of New York's academic medical centers. This means one of every 11 people employed in New York State have their jobs due to the academic healthcare industry.

The impacts are seen at not only the state level but more directly at the local county level where the concentration of jobs directly attributable to the academic medical centers are strongest.

PERCENTAGE OF EACH OF THE LOCAL ECONOMIES ATTRIBUTABLE TO THE ACADEMIC MEDICAL CENTERS OPERATIONS, 2008



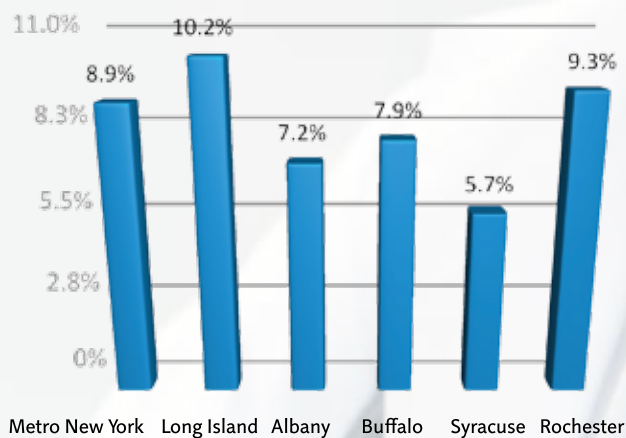
PERCENTAGE OF EACH OF THE LOCAL EMPLOYMENT ATTRIBUTABLE TO THE ACADEMIC MEDICAL CENTERS OPERATIONS, 2008



## STATE TAX REVENUE IMPACT

It is a common misperception that medical schools and hospitals do not generate government revenue. While the academic medical centers are not-for-profit institutions that do not pay corporate income taxes or property taxes, New York hospitals' and medical schools' in-state spending and the income derived from out-of-state sources have a significant impact on state tax revenue. With more than **\$4.2 billion** in annual state tax revenue generated, the academic medical centers are critical to the continued success of state and local governments. Since these institutions are located throughout the State, communities in every region benefit from the academic healthcare industry.

PERCENTAGE OF EACH OF THE LOCAL TAX STATE TAX REVENUE ATTRIBUTABLE TO THE ACADEMIC MEDICAL CENTERS OPERATIONS, 2008

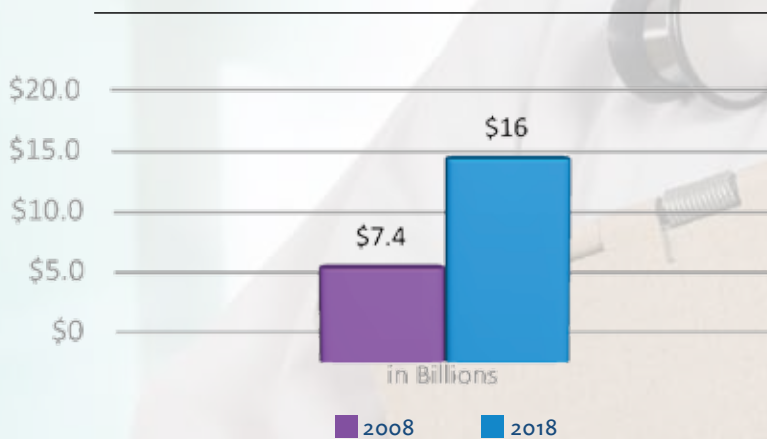


## RESEARCH CONDUCTED AT NEW YORK STATE MEDICAL SCHOOLS

The fifteen New York State medical schools work independently, as well as collaboratively, to maximize their research efforts and capabilities. This is accomplished through the shared use of lab space, specialty equipment, and through combining the expertise located throughout the State to generate superior research outcomes. These collaborations fuel New York's biotechnology, medical technology and biomedical companies, creating benefits for the local economy, the local job market, and the local healthcare industry segment.

Tripp Umbach estimates the 2008 economic impact of conducting medical research and developing business spinoffs was over \$7.4 billion in New York State. This is in addition to the \$85.6 billion in total economic impact related to the operations of New York academic medical centers. Tripp Umbach also estimates that federal and state research dollars collected by AMSNY members in 2008 will result in an additional economic impact of \$16 billion to the State's economy by 2018.<sup>5</sup>

AMSNY MEMBER INSTITUTION'S ANNUAL RESEARCH IMPACTS



## VALUE OF UNCOMPENSATED CARE

While the economic impacts of institutional expenditures and job creation in New York are substantial, so too are the contributions that academic medicine makes to the care of the uninsured and underinsured. Although academic medical centers comprise less than 6% of the nation's acute care hospitals, estimates show that they provide 45% of uncompensated care in the United States.<sup>6</sup> Given the challenging economic times, we find an increasing number of individuals uninsured and under-insured. This is a major concern to institutions that are already running on the margins, and whose missions are to treat everyone, regardless of ability to pay.

State budget cuts in hospital support, such as Medicaid, as well as cuts in educational programs, have meant a decrease in services, salary cuts and/or reductions in workforce. In addition, the decline in private philanthropy has added to the need for caution and cutbacks. These cutbacks are unfortunately occurring at a time when the need for uncompensated care funding has been at an all-time high, taxing many of these institutions further.

While it is reported that hospitals in New York State provide \$2 billion in uncompensated care annually<sup>7</sup>, this does not take into consideration the cost of health fairs, or free care clinics run by many medical school students, or the time that students provide as volunteers in the local communities. The healthcare outcomes and cost savings as a result of these efforts are not easy to quantify. According to the Association of Academic Health Centers (AAHC), academic health centers, on average, provide almost \$44 million in uncompensated patient care each year, and one in seven provides more than \$100 million, acting as a primary public safety net.<sup>8</sup>

## PROVIDING QUALITY MEDICAL EDUCATION

The New York State medical schools train approximately 11% of the nation's medical students and 15% of its residents. Students have the opportunity to learn from some of the nation's most renowned clinical and research faculty. In addition, New York State institutions are known for curriculum innovation and reform, such as the Double Helix method of teaching medical education, and the development of educational informatics. The diversity of students, as well as the curriculum to which they are exposed is a benefit to the well being of the local communities in which they learn and eventually practice. This depth of teaching excellence attracts the highest quality students, more than half of whom ultimately remain in New York State to practice medicine.

## VALUE OF TRAINING & RETAINING PHYSICIANS

The economic impact of a new practicing physician is estimated by Tripp Umbach at \$1.5 million annually. With a growing shortage of physicians nationally, the addition of thousands of physicians each year is a true competitive advantage for the New York State economy. Tripp Umbach estimates the impact of New York State medical school graduates, whom remain within the State after graduation to practice medicine, represent an additional impact of nearly \$1.4 billion annually.<sup>9</sup>

## **BENEFITS OF NEW YORK'S ACADEMIC MEDICAL CENTERS**

The New York State medical schools and their primary hospital affiliates recognize that the problems besetting the healthcare system, i.e., issues with available and affordable patient care services, are pervasive and critical. However, they are not insurmountable. New York State's medical schools are doing their part to overcome these challenges. Through their residency programs, New York's academic medical centers provide the lion's share of health care to the medically underserved. Through innovative research, the medical schools continue to make dramatic advances in the prevention, diagnosis, and treatment of cancer, heart disease, diabetes and other serious illnesses.

**Through collaborative efforts AMSNY member institutions are committed to:**

- Ensuring that the population of New York receives high quality, accessible, culturally sensitive, cost effective healthcare;
- Keeping New York State at the top of academic medicine by evolving and growing with medical education trends;
- Increasing the number of under-represented individuals prepared for, and admitted to, New York's medical schools and eventually practicing in New York State;
- Increasing the number of primary care physicians while ensuring a better distribution of primary care resources throughout the State;
- Searching for new opportunities for concerted programs of biomedical and health services research; and
- Offering New York's citizens the opportunity to benefit from newly developed medicines, procedures and technologies through improved coordination of information and resources.

Using the intellectual and institutional resources in an intensive statewide effort to improve medical education, conduct innovative and translational research and provide quality patient care, the medical schools of New York will help ensure a brighter, healthier future for all New York State residents.



- 1 *In this report, academic medical centers refer to medical schools and primary affiliated hospitals.*
- 2 *Direct impact includes items such as institutional spending, employee spending, and spending by visitors to the institution. Indirect impact, also known as the multiplier effect, includes the re-spending of dollars within the local economy. The total impact is the combination of both the direct and the indirect.*
- 3 *For the purposes of this report, Long Island local area consists of Nassau County and Suffolk County; New York Metro area consist of Bronx County, Kings County, New York County, Queens County, Richland County, and Westchester County; Rochester local area consists of Genesee County, Livingston County, Monroe County, Ontario County, and Wayne County; Buffalo local area consists of Cattaraugus County, Erie County, Niagara County, and Wyoming County; Syracuse local area consists of Madison County, Onondaga County, and Oswego County; Albany local area consists of Albany County, Columbia County, Greene County, Montgomery County, Rensselaer County, Saratoga County, Schenectady County, and Schoharie County.*
- 4 *For the purposes of this report, Upstate Medical Schools are defined as Albany Medical College, SUNY Upstate Medical University, University at Buffalo State University of New York School of Medicine and Biomedical Sciences, and University of Rochester School of Medicine and Dentistry. Additionally, for the purposes of this report the Downstate Medical Schools are defined as Albert Einstein College of Medicine of Yeshiva University, Columbia University College of Physicians & Surgeons, Mount Sinai School of Medicine, New York College of Osteopathic Medicine, New York Medical College, New York University School of Medicine, Sophie Davis School of Biomedical Education at CUNY, SUNY Downstate Medical Center, Stony Brook University Medical Center, Touro College of Osteopathic Medicine, and Weill Cornell Medical College.*
- 5 *Tripp Umbach economic impact models showing commercialization of research developed initially in 2001 for the Mayo Clinic and University of Minnesota.*
- 6 *Interview with Robert Dickler, Senior Vice President of Health Care Affairs of the Association of American Medical Colleges (AAMC), 2001. <http://www.physiciansnews.com/cover/201wp.html>*
- 7 *HANYS Says Community Benefit and Uncompensated Care Justify Hospital Tax-Exemption - HANYS News October 14, 2009 – HANYS <http://www.hanys.org/news/index.cfm?storyid=1234>*
- 8 *[http://www.aahcdc.org/policy/reddot/FG\\_AHC\\_Creating\\_the\\_Knowledge\\_Economy\\_04-09.pdf](http://www.aahcdc.org/policy/reddot/FG_AHC_Creating_the_Knowledge_Economy_04-09.pdf)*
- 9 *This number is derived from the assumption that over 2,100 students graduate annually from the various medical schools and New York State has a 45% retention rate, which based upon Tripp Umbach’s previous research is a valid assumption for the State of New York.*

## NEW YORK'S MEDICAL SCHOOLS AND PRIMARY HOSPITAL AFFILIATES

### **Albany Medical College**

Albany Medical Center Hospital  
Glens Falls Hospital  
Mary Imogene Bassett Hospital\*  
Saratoga Hospital  
St. Peter's Health Care Services

### **Albert Einstein College of Medicine of Yeshiva University**

Beth Israel Medical Center  
Bronx Lebanon Hospital Center\*  
Jacobi Medical Center  
Long Island Jewish Medical Center  
Montefiore Medical Center  
North Central Bronx

### **Columbia University College of Physicians & Surgeons**

Harlem Hospital Center  
Mary Imogene Bassett Hospital\*  
New York-Presbyterian Hospital The University  
Hospital of Columbia and Cornell\*  
New York State Psychiatric Institute  
St. Luke's-Roosevelt Hospital Center

### **Mount Sinai School of Medicine**

The Bronx Veterans Administration Medical Center  
Elmhurst Hospital Center  
The Jewish Home and Hospital for the Aged  
Mount Sinai Hospital  
North General Hospital  
Queens Hospital Center

### **New York College of Osteopathic Medicine**

Benedictine Hospital  
Brookdale University Hospital  
Coney Island Hospital\*  
Ellis Hospital  
Good Samaritan Medical Center  
Jamaica Hospital Medical Center  
Long Beach Medical Center  
Lutheran Medical Center  
Maimonides Medical Center\*  
Nassau University Medical Center  
North Shore University Hospital-Plainview  
Parker Jewish Institute for Health Care  
Peconic Bay Medical Center  
Peninsula Hospital Center  
Sisters of Charity Hospital  
South Nassau Communities Hospital  
Southampton Hospital  
St. Barnabas Hospital  
Wilson Memorial Regional Medical Center  
Wyckoff Heights Medical Center

### **New York Medical College**

Metropolitan Hospital Center  
Montefiore Medical Center, North Division  
New York Eye and Ear Infirmary  
Saint Vincent Catholic Medical Centers  
Westchester Medical Center

### **New York University School of Medicine**

Bellevue Hospital Center  
Manhattan Campus of the VA NY Harbor  
Healthcare System  
NYU Hospital for Joint Diseases  
NYU Hospitals Center  
Tisch Hospital  
Woodhull Medical & Mental Health Center

**Sophie Davis School of Biomedical Education at City University of New York**

Has no clinical programs

**State University of New York Downstate Medical Center**

Coney Island Hospital\*  
Kings County Hospital Center  
Long Island College Hospital  
Maimonides Medical Center\*  
State University of New York Downstate Medical Center/University Hospital of Brooklyn  
Staten Island University Hospital\*

**State University of New York Upstate Medical University**

United Health Services Hospitals  
University Hospital, State University of New York  
Upstate Medical University

**Stony Brook University Medical Center**

Stony Brook University Hospital  
Winthrop-University Hospital

**Touro College of Osteopathic Medicine**

Bronx Lebanon Hospital Center\*  
Staten Island University Hospital\*

**University at Buffalo State University of New York School of Medicine and Biomedical Sciences**

Erie County Medical Center  
Kaleida Health/Buffalo General Hospital  
Millard Fillmore Gates Circle Hospital  
Millard Fillmore Suburban Hospital  
Roswell Park Cancer Institute  
Veterans Administration Medical Center  
Women's and Children's Hospital of Buffalo

**University of Rochester School of Medicine and Dentistry**

F.F. Thompson Hospital  
Highland Hospital  
Park Ridge Hospital  
Rochester General Hospital  
St. Mary's Hospital  
Strong Memorial Hospital

**Weill Cornell Medical College**

Brooklyn Hospital Center  
Hospital for Special Surgery  
Lincoln Medical and Mental Health Center  
Memorial Sloan Kettering Cancer Center  
New York Methodist Hospital  
New York-Presbyterian Hospital - The University Hospital of Columbia and Cornell \*  
NYHMC of Queens  
Payne Whitney Clinic

*\* Affiliated hospitals are counted once in the business volume analysis, however, are affiliated as a primary teaching hospital for more than one medical school.*

*Primary affiliated hospitals in this study include hospitals located in the State of New York that are owned by or closely affiliated with a New York State medical school: this includes hospitals that generally provide clerkship experience in two or more of the following major services: internal medicine, surgery, pediatrics and obstetrics-gynecology. An institution responsible for most of the teaching in a single specialty, such as psychiatry or pediatrics, may also be considered a major affiliation. In a major teaching hospital, medical students serve clinical clerkships regularly on inpatient services, under the supervision of medical school faculty. A major teaching hospital may or may not be used for medical school residencies.*

Incorporated in 1967, the Associated Medical Schools of New York (AMSNY) is comprised of the fifteen public and private medical schools in New York State—connecting the people, knowledge and resources of New York State medical schools. The deans of AMSNY member institutions comprise its Board of Trustees. They provide vision and leadership, ensuring the State’s preeminence in the fields of medical research, medical education and patient care.

AMSNY facilitates educational opportunities for medical students, residents, faculty and those students wishing to follow a career in medicine. It coordinates an intensive statewide effort to increase equitable representation in medical education and access to healthcare for the economically disadvantaged.

The knowledge and expertise of AMSNY member institutions have influenced healthcare policy by educating federal, state and local leaders. AMSNY has advocated for access to healthcare for all people, AIDS patient care responsibility, animal research, biomedical research and palliative care education.



**STUDY COMPLETED BY:**



Tripp Umbach is recognized nationally as the leading provider of economic impact analysis for academic health centers, having completed national studies for the Association of American Medical Colleges since 1995. In addition to New York, Tripp Umbach has completed statewide economic impact studies for all of the medical colleges and their hospital affiliates in Pennsylvania, Ohio, Minnesota, Wisconsin, Virginia, Massachusetts, Arizona, and South Carolina. Tripp Umbach has completed economic impact studies for more than 100 leading healthcare organizations and for several state governmental agencies over the past eighteen years.