



Testimony of:

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& the New York State Senate Committee on Finance
On the Executive Health Care Budget

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Good afternoon Chairman DeFrancisco, Chairman Farrell, Chairman Hannon, Chairman Gottfried and other distinguished members of the State Legislature. Thank you for this opportunity to testify on the proposed Executive budget for fiscal year 2014-2015.

My name is Jo Wiederhorn, President & CEO of the Associated Medical Schools of New York (AMSNY), the consortium of the sixteen public and private medical schools in New York State. AMSNY works in partnership with its members to promote high quality and cost-efficient health care by ensuring that New York State's medical schools provide outstanding medical education, patient care and biomedical research.

In a 1989 article in the Journal of the American Medical Association, Stephen Schroeder and colleagues referred to academic medicine as a *public trust*, because it "is entrusted by society with the responsibility to undertake several important social missions toward improving the health of the public, including education, patient care and research." New York State's medical schools take this trust very seriously by: 1) producing the future physician workforce; 2) promoting biomedical research and strengthening local economies; and 3) improving the physical and economic health of the communities we serve.

We are grateful for the programs that were included in the Executive Budget, including continued funding for stem cell research and the Spinal Cord Injury Research Program. We support the State's strategy to expand economic development, and believe that growing the State's research infrastructure is an important piece of this strategy.

Health Care Workforce

AMSNY strongly believes in the importance of a multi-faceted strategy to meet the growing demand for primary care and specialty physicians, while simultaneously tackling the current need to remove barriers to health care access in underserved areas.

As have other states, New York has opened new medical schools and increased class sizes. As a recent example, the Sophie Davis School of Biomedical Education has submitted an application to become a four-year medical college (thereby further increasing the number of students). Similarly the Touro College of Osteopathic Medicine is opening a branch campus in Middletown, which will increase its student population by 135 students per year.

But the changing healthcare environment demands more than increasing class sizes and opening new schools. The provision of healthcare services is changing. The Affordable Care Act is supporting new delivery models – from accountable care organizations to patient-centered medical homes. The

knowledge and skills physicians need to practice, and lead, in these new systems call for new curricula. As such, the curricula at all of our schools has greatly evolved to include the importance of outcomes-driven patient care, inter-professional team-based models, cultural competency, and training in basic and translational research to further knowledge acquisition.

A diverse physician workforce plays a critical role in this strategy. While populations that are underrepresented in medicine¹ (URM) make up 33 percent of the New York State population, they account for approximately 13% of the State's medical students and only 9.5% of New York State physicians. As such, increasing the number of URMs, and ensuring that our physician workforce reflects the rich diversity of New Yorkers, is vital for the state's overall health.

AMSNY's Diversity in Medicine Program

Since 1985, AMSNY has supported an array of pipeline programs across the State with the intent of expanding the pool of students choosing careers in health and medicine. The goal of these programs is to provide academic enrichment and support to students from educationally and/or economically underserved backgrounds. These programs provide an opportunity that a majority of participants would not otherwise have had due to cultural and financial barriers.

I am very pleased the Executive Budget includes funds for our Diversity in Medicine program. However, even though these programs have spectacular outcomes (I have attached our *Diversity in Medicine* fact sheet), we are nonetheless less able to sustain them over the long term due to budget cuts.

For many years the Senate and Assembly have been very supportive of these programs – and I am truly grateful for that. Last year, the *AMSNY Diversity in Medicine Program* was pooled with 11 other programs funded through the State Department of Health. This put our ability to continue them in jeopardy. It was due to your efforts that these essential programs were removed from the funding pools. Our challenge this year, however, is that we have more students enrolled than we've had for a number of years.

AMSNY oversees seven core programs as part of our *Diversity in Medicine* grant. These include:

- *Four Post-Baccalaureate Programs* – three of which offer Masters of Science degrees, and one of which is a traditional post-bac program (50 students per year)

¹ "Underrepresented in medicine means those racial and ethnic populations that are underrepresented in the medical profession relative to their numbers in the general population." AAMC's Executive Council, June 2003

- *The Academic Learning Center at Sophie Davis School of Biomedical Education at CCNY* (where there are 500-600 student visits per year)
- *The Pathways to Careers in Medicine and Research Program* at the City College of New York (CCNY) which pairs junior and senior basic science students with NIH-funded researchers (30 students per year); and
- *The Physician Career Prep Program* at Staten Island University Hospital which provides academic support, workshops, clinical shadowing and research opportunities to encourage high school students to pursue careers in medicine and health.

We have also supported Medical College Admissions Test (MCAT) preparatory programs at three medical schools: Albert Einstein, Columbia and NYU. I would, however, like to focus your attention on our post-bac programs.

Our traditional post-bac program is housed at the School of Medicine & Biomedical Sciences at the University at Buffalo. Since 1991 there have been 375 students in this program. These are students who would not otherwise have been admitted to medical school. Of these, 93 percent enrolled in medical school and 87 percent graduated from medical school. In addition, 55 percent entered primary care residencies and 54 percent stayed in New York for their residencies.

Our three master degree post baccalaureate programs have been in existence since 2008. They are located at New York Medical College, Stony Brook University School of Medicine and SUNY Upstate Medical University. Because these programs are still very new, we do not yet have extensive outcome data. However, as in the traditional post-bac program, 93 percent of these students entered medical school already having received a Master of Science (MS) degree; the other 7 percent, although not entering medical school, nonetheless finished their programs and received MS degrees.

These programs continue to thrive. However, funding has been cut from \$2 million dollars in 2008 to \$1.6 million in 2014 – the same funding reflected in this year’s Executive Budget proposal. Because of this, the three MCAT prep programs will not be funded in FY2014, nor will they be funded again in 2015.

Likewise, student stipends have stagnated. The students at Buffalo are not permitted to work while enrolled in the post-bac program. AMSNY provides funds for basic living expenses, books and health insurance. The Masters students receive stipends to offset their loans, help defer the costs of the

program or help with living expenses. While we all know that the cost of living continues to escalate, the students at Buffalo have received the same level stipend since 2005. Students at the Masters programs have never received an increase.

Therefore, AMSNY respectfully requests your help again. I ask that funding be restored to the 2008 level of \$2 million. As stated previously, these are highly effective programs that are accepting students who otherwise would not be eligible to enter medical school. Moreover, the majority of these students, upon graduation, stay and practice primary care in New York.

I appreciate your consideration.

Research: As a Public Health and Economic Driver

The second aspect of academic medicine as a public trust is through the advancement of biomedical research, which in turn strengthens local economies. Research is a critical component of medical education. Many of us have long touted the need for more practicing physicians, and as I mentioned, New York's medical schools play a crucial role in the training of physicians to practice. However, medical education is also the means by which new biomedical researchers are born. These physician scientists spend much of their professional lives in laboratories uncovering how genes function, how they influence disease, and how to best translate these discoveries into new technologies to diagnose and treat disease.. It is difficult to quantify how support for biomedical science ultimately provides health or economic returns; however in 2011 the National Academies published a review of the impact of publicly funded biomedical and health research². The report cites a number of studies, dating as far back as 1976 when Comroe and Dripps noted that, "basic research...pays off in terms of key discoveries almost twice as handsomely as other types of research and development combined."³ In order to quantify this impact, mortality rates of diseases are examined. Estimating that every additional life-year gained is approximately equal to \$100,000, a 2010 study found that the social value from improvements in life expectancy from cancer research totaled \$2 trillion between 1988 and 2000.⁴

The National Academies report also cites studies on the relationship between public support and private research and development. One of its most notable findings is that there is a strongly positive association between public and private sector funding. Specifically:

² National Academies (US) Committee on Measuring Economic and other Returns on Federal Research Investments. *Measuring the Impacts of Federal Investments in Research: A workshop Summary*, Washington (DC); National Academies Press (US); 2011

³ Comroe J, Dripps Rd. *Scientific Basis for the Support of Biomedical Science*. *Science* 1976; 192(4235); 105-111. (PubMed 769161)

⁴ Lakdawalla, DN etal, *An Economic Evaluation of the War on Cancer*, *Journal of Health Economics* 29.3 (2010): 333-346

- A 1 percent increase in public sector support, within a specific disease area, is associated with a 0.76 percent increase in private sector research and development within that same disease area over the next seven years;
- Within the pharmaceutical industry, public research was the most important source of new project ideas; and
- A positive and statistically significant association [was found] when studying the number of important patents developed when private sector research and development [teams] collaborate with public sector scientists.⁵

Given the impact of these public/private sector collaborations, it is vital that New York State continue to support all aspects of biomedical research. I would like to draw your attention to the key findings in two of the attachments to this testimony:

Biomedical Research in NYS Fact Sheet

- On the front—the top third of the page outlines the key economic benefits NYS’ academic medical centers provide to the State;
- Looking at the middle section there are three items of particular importance:
 - NYS ranks **third** in NIH funding;
 - NIH funding accounts for approximately 30,000 jobs in the state; and
 - Due to budget and sequestration cuts, NYS **lost \$100 million** in NIH funding in 2013—this funding will more than likely **not** be restored in the near future.
- On the bottom of the front page is a very important chart: it compares the amount of funds that individual states have allocated toward biomedical research and the resultant job growth within the industry. As you see—**New York State lags far behind.**
- On the back are statistics related to the bioscience industry in the state:
 - There are approximately **75,000 bioscience jobs** located across the state—which pay **twice as much** as the average private sector salary;
- On the left you will note some very interesting statistics:
 - Of the \$30 billion invested by venture capitalists in the US most have gone to states that have invested in biomedical research:
 - 47 percent to California
 - 12 percent to Massachusetts
 - **4 percent to NYS.**
- **Only 9 percent of bioscience VC funds managed by NY firms remain in NY**

⁵ National Academies (US) Committee on Measuring Economic and other Returns on Federal Research Investments. Measuring the Impacts of Federal Investments in Research: A workshop Summary, Washington (DC); National Academies Press (US); 2011

Biomedical Research in NYS: Review of Other State Initiatives

Other states have all understood the importance of investment in biomedical research.

The five states in this review are making significant investments in research as NIH funding decreases. They are funding new labs, top scientific talent and entrepreneurship because they recognize that making such investments results in new discoveries and intellectual property that drive private sector growth and support economic stability. Of particular note are Massachusetts and Connecticut. These neighbor states have many fewer medical schools than New York (Massachusetts has only four; Connecticut three – one of which opened just this year), but have made investments in biomedicine that significantly eclipse ours.

Funding in New York State

AMSNY therefore respectfully requests the Legislature to renew and increase its support for biomedical science and the recruitment and retention of top scientific talent in the state. There is precedent for this funding, through the NYSTEM and NYSTAR programs:

NYSTEM

NYSTEM has proven extremely successful and continues to drive medical innovation and job creation. Funding for this program positions the State as a national and global leader in stem cell research, and brings hope to millions of people suffering from a range of debilitating diseases. The infusion of state funds for stem cell research has been the mechanism by which institutions have been able to leverage the State's investment to obtain significant amounts of external funding through federal grants and philanthropic sources.

The State's investment in stem cell research, which has created new jobs and has attracted top researchers from around the world needs to be sustained. Leading scientists and medical professionals have relocated to New York because it has provided them opportunity to conduct cutting-edge research. In doing so, these scientists brought with them sizeable NIH grants and post-doctoral students. Furthermore, medical schools and research laboratories hired additional researchers to complement the stem cell programs. The growing research infrastructure brought increased revenue for research facilities and staff and the ability to train new graduate students, develop new drug therapies, and spin off clinical businesses throughout the region.

The Foundation for Science, Technology and Innovation (NYSTAR)

NYSTAR, through its *Faculty Development Program*, has been instrumental in recruiting and retaining scientific talent from outside NYS. The program, which unfortunately lost funding in recent years, enabled

institutions to attract up-and-coming researchers, foster university-industry collaborations, and harness technologies that emerged from basic research into real world application. AMSNY estimates that for every dollar in NYSTAR funding for the *Faculty Development Program*, there was a return of \$7 to the State. Since the program's inception in 2003, faculty recruited as a result of this program have leveraged more than \$245 million in federal funding from agencies such as the NIH, the National Science Foundation (NSF), and from private and philanthropic sources. This research funding has directly and indirectly supported more than 1,700 jobs in New York State.

These outcomes are prime examples of why the State must continue its support and increase funding for biomedical research and the recruitment and retention of star scientists. We will once again lose our competitive advantage to other states if we fail to act. New York has an established and rich resource in academic medicine. AMSNY encourages the State to look at academic medicine as a means for future economic development.

Patient Care: State University of New York (SUNY) Hospitals

The third leg of the "public trust" is patient care. We remain concerned about our members who are affiliated with the SUNY Hospitals in Syracuse, Brooklyn, and Stony Brook. Historically, the Executive Budget provided a margin that enabled these institutions to remain in the black. That margin has been diminished over the last decade to the point where these clinical classrooms are in a seemingly constant struggle to survive. These institutions are linked through their missions, budget and programs. Any short term or long terms plans for these hospitals need to take in the affect those will have on their Colleges of Medicine and health education programs. While all our medical schools enroll New York residents, the SUNY schools lead the way in educating New Yorkers.

Closing

Thank you for the opportunity to testify today and for your continued support of medical education. I welcome any questions you may have.

Respectively Submitted:

Jo Wiederhorn

The Associated Medical Schools of New York (AMSNY) is the consortium of the sixteen public and private medical schools in the state. The organization's mission is to promote high quality and cost-efficient health care by ensuring that the NYS medical schools can provide outstanding medical education, care and research.

AMSNY Member Institutions

- Albany Medical College
- Albert Einstein College of Medicine of Yeshiva University
- Columbia University College of Physicians & Surgeons
- Hofstra North Shore-LIJ School of Medicine of Hofstra University
- 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 College 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 & Biomedical Sciences
- University of Rochester School of Medicine & Dentistry
- Weill Cornell Medical College

November 2013

Review of Other State Initiatives

California Institute for Regenerative Medicine

Funding Amount: \$3 billion

Time Period: 10 years

Status: Signed into law in 2005



Purpose:

- Support and advance stem cell research and regenerative medicine
- Fund at least ten therapies in early clinical trials that impact five disease areas
- Attract the best scientists in the world
- Create partnerships with industry and leverage dollars to accelerate development
- Create dedicated clinics to perform clinical trials
- Work closely with state and local governments to attract new research enterprises to California

Funding Summary:

- Authorizes an average of \$295 million per year
- 586 awards since 2006
- More than \$1 billion disbursed to date
- Awards intended for: 69 percent research, 20 percent facilities, 11 percent training

State Rank in 2012 NIH Funding: 1 (\$3.5 billion)

Massachusetts Life Sciences Initiative

Funding Amount: \$1 billion

Time Period: 10 years

Status: Signed into law in 2008



Purpose:

- Provide working capital to early stage life science companies
 - Focus on high potential for technology commercialization, rapid growth and private equity financing
- Provide grants for capital projects that enable and support life sciences workforce development and training, research and development, commercialization and/or manufacturing
- Promote industry-academic research collaborations, support translational research and accelerate the commercialization of promising products and services
- Fund pre-clinical neuroscience research at academic and research institutions
- Incentivize life sciences companies to create new long-term jobs in the state

Funding Summary:

- Leveraged more than \$1.2 billion in matching investment capital
- \$17.2 million in loans to 26 companies
- \$372 million awarded or committed to support capital projects across state
- Through tax incentive program, 73 active awards totaling \$75 million made to companies that have created, or are promising to create, 2400 jobs

State Rank in 2012 NIH Funding: 2 (\$2.6 billion)

Cancer Prevention Research Institute of Texas

Funding Amount: \$3 billion

Time Period: 10 years

Status: Signed into law in 2007



Purpose:

- Create and expedite innovation in cancer research
- Attract, create and expand research capabilities of public and private institutions
- Create high quality new jobs in the state
- Continue development and implementation of the Texas Cancer Plan

Funding Summary: Since 2010, 498 awards totaling \$836 million

Economic Impact:

- Tax receipts associated with CPRIT totaled \$60.6 million in 2011; local municipalities received \$30.9 million
- For every dollar invested:
 - \$4.78 in output
 - \$1.99 in annual state and local revenue
 - \$9.48 in total economic activity

State Rank in 2012 NIH Funding: 7 (\$1.1 billion)

James & Esther King Biomedical Research Program (Florida)

Funding Amount: \$150 million

Time Period: 10 years

Status: Signed into law in 1999, and again in 2010



Purpose:

- Improve health care by researching prevention, diagnoses, treatments and cures for tobacco-related diseases
- Increase state per capita funding for research by undertaking new initiatives that will attract out-of-state funding
- Stimulate economic activity in the state related to biomedical research, production of pharmaceuticals, biotechnology and medical devices

Funding Summary:

- Since inception, funding has derived from interest earned on \$150 million reserve within an endowment established from a tobacco industry lawsuit and tobacco usage tax.
- \$20 million appropriated for 2010
- \$8 million appropriated for 2012

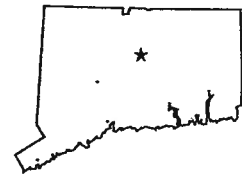
State Rank in 2012 NIH Funding: 12 (\$502 million)

Bioscience Connecticut

Funding Amount: \$864 million

Time Period: 25 years

Status: Signed into law in 2011



Purpose:

- Provide 3,000 construction jobs annually from 2012 through 2018

- Generate a \$4.6 billion increase in personal income by 2037
- Create 16,400 jobs
- Double federal and industry-sponsored research grants to drive discovery, innovation and commercialization
- Improve access to high quality health care
- Graduate and retain more physicians and dentists to meet forecasted workforce shortages, and meet increased demand for services resulting from health care reform
- Strengthen and stabilize University of Connecticut Health Care Center's finances

Funding Summary:

- \$155 million to renovate existing research facilities
- \$318 million to construct new patient tower and garage
- \$163 million to renovate existing tower facility
- \$203 million to construct new ambulatory care center
- \$25 million to implement University of Connecticut Health Network initiatives

State Rank in 2012 NIH Funding: 16 (\$476 million)

Next Generation Connecticut

Funding Amount: \$1.5 billion

Time Period: 10 years

Status: Newly enacted

Purpose:

- Hire 259 new University of Connecticut faculty (of whom, 200 in Science, Technology, Engineering and Mathematics (STEM) disciplines)
- Enroll an additional 6,850 undergraduate students
- Build STEM facilities to house materials science, physics, biology, engineering, cognitive sciences, genomics and related disciplines
- Construct new STEM teaching laboratories
- Create a premiere STEM honors program
- Upgrade aging infrastructure to accommodate new faculty and students
- Expand digital media and risk management degree programs
- Relocate University of Connecticut's Greater Hartford campus to downtown Hartford

Funding Summary:

- \$869 million for academic and research facilities
- \$542.5 million for deferred maintenance
- \$133.5 million for equipment
- \$70 million for Hartford relocation
- \$40 million for residential life facilities
- \$206 million in operating funds

State Rank in 2012 NIH Funding: 16 (\$476 million)