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Testimony of:

Jonathan Teyan, President & CEO

Associated Medical Schools of New York (AMSNY)

New York State Academic Dental Centers (NYSADC)

At a Joint Budget Hearing of

The New York State Assembly/Senate Committees on Economic Development

&

The New York State Senate Committee on Finance &

The New York State Assembly Committee on Ways and Means

February 26, 2025

2:00PM

Legislative Office Building

Hearing Room B

Good morning, Chairs Krueger, Pretlow, Ryan, Stirpe and other distinguished members of the Legislature. Thank you for this opportunity to testify about economic development issues that are of particular importance to New York State's medical and dental schools.

My name is Jonathan Teyan, President and Chief Executive Officer of the Associated Medical Schools of New York (AMSNY) and the New York State Academic Dental Centers (NYSADC).

AMSNY is the consortium of the academic medical centers in New York and we strive to be the voice of medical education in the state. To that end, we advocate for policies that help advance the education and training of physicians, support biomedical research and provide New Yorkers with access to the very best clinical care.

NYSADC is the consortium of the academic dental centers in New York. We work on behalf the dental schools to address issues important to dental education, including providing advanced training opportunities in the treatment of people with special needs and improving access to oral healthcare for all New Yorkers.

I would first like to thank the Legislature for its strong support of the New York Fund for Innovation in Research and Scientific Talent (NYFIRST) Program, and particularly Chairs Ryan and Stirpe for their leadership in securing a new $10 million investment in the program in the 2024-25 State budget.

Background

New York State is home to 17 academic medical centers – more than any other state. Annually, we have more than 11,000 students enrolled in our medical schools and train approximately 12% of the nation's residents at our teaching hospitals. In addition to education and clinical care, our medical schools are global leaders in biomedical research, conducting the foundational research that leads to new treatments and cures. This research also drives innovation in the state's life sciences sector through collaborations and new startup ventures.

New York's life sciences sector continues to grow and plays an increasingly important role in our state and regional economies. In 2020, research and development (R&D) expenditures in the life sciences totaled $4.7 billion, of which $3.2 billion is attributable to research conducted at our medical schools. In 2024, New York State was the second leading recipient of funding from the National Institutes of Health (NIH), with nearly $3.6 billion flowing into the state. Seventy percent ($2.5 billion) of that total was awarded to scientists at our medical schools. Research at the medical schools is also a significant driver of employment, supporting 17,000 high-paying, long-term jobs across the state.

New York State has made targeted investments in biomedical research, including our Centers of Excellence, Centers for Advanced Technology and the Life Sciences Initiative, but our overall funding for the life sciences has not kept pace with other states. Importantly, NIH and other federal funding is awarded to scientists, not institutions, and when scientists are recruited to other institutions, their

funding follows them. As a result, those states making significant investments have more advanced start-up ecosystems and competitive advantages in recruiting and retaining world-class scientific talent. Further, changes and uncertainty regarding policies at the federal level will make competition for federal funding even greater. It is critically important that New York continue to invest in this area to ensure that our state remain a leader in this area which provides economic benefit as well as health care advantages to our citizens.

New York Fund for Innovation in Research & Scientific Talent (NYFIRST)

One of New York State's targeted investments is the NYFIRST program, which was a central part of the Life Sciences Initiative announced in 2017. This initiative signaled the State's commitment to an increasingly important part of New York State's innovation economy. The initial $20 million appropriation for NYFIRST was driven by the Legislature in recognition that recruiting and retaining global leaders in biomedical research was essential to our scientific workforce and the opportunities that arise from their important work.

In a relatively short time, the NYFIRST program has already improved New York State's competitive position in recruiting and retaining world-class scientific talent. But the vital work of strengthening New York's life sciences workforce has just begun; the State must continue to ensure our academic institutions and private sector have the scientific talent to drive discoveries, technological innovation, entrepreneurship, product development, and new company formation.

Return on Investment

NYFIRST leverages additional investments from academic institutions through a required 2:1 match. Since 2018, with $11.7 million invested by the State, NYFIRST generated $107.4 million in matching funds through institutional investments. This represents a nearly 10:1 return on every State dollar invested in NYFIRST.

In the first four years of this program, the State has enabled New York research institutions to retain or recruit nine leading scientists, creating 156 new jobs with an average salary of $77,802.

Employment

NYFIRST is a proven driver of life sciences employment. These are high-wage jobs (averaging $77,802 per year, exceeding the statewide average private sector wage) at institutions with deep historical roots in New York State. Given their complex infrastructures and partnerships with other healthcare entities and local communities, academic medical centers are stable employers over the long term. They will continue to be an important component of the State's economy for the foreseeable future, meaning that, in contrast to other economic development initiatives, there is little risk that State investments in NYFIRST will flow out-of-state and fail to provide in-state jobs. In the first four years of this program, the

State has enabled New York research institutions to retain or recruit nine leading scientists, creating 156 new jobs and counting.

Competition for Scientific Talent

As I mentioned, the competition for top scientists among states and institutions is fierce. Many places have launched multibillion dollar campaigns to poach researchers and bring their federal funding to a new institution. Given our wealth of talent, New York has been a prime target for these recruitments for some time.

As an example, the Cancer Prevention Research Initiative of Texas (CPRIT) launched in 2007 with an initial $3 billion investment over 10 years. Building on the first decade of success, Texas voters authorized a second $3 billion investment in CPRIT in November 2019. CPRIT is now the second largest public funder of cancer research in the U.S., following only the National Cancer Institute. Over the last 15 years, CPRIT has awarded $854 million to Texas research institutions specifically to recruit out-of-state scientists through their CPRIT Scholar and Recruitment of Rising Stars (RRS) programs which have successfully recruited many scientists from New York State research institutions. One of those recruits, the immunotherapy pioneer James Allison, was lured from Memorial Sloan Kettering Cancer Center to MD Anderson Cancer Center in Houston with a $10 million package. Dr. Allison's research in immunotherapy has proven remarkably effective in fighting advanced cancers and has led to the development of an entirely new class of checkpoint inhibitor drugs. Dr. Allison subsequently went on to win the prestigious Lasker Prize followed by a Nobel Prize in 2018. Most recently in 2024, the CPRIT Scholars program recruited Xufeng Chen, PhD, from New York to continue his work on uncovering therapeutic strategies for enhancing immunosurveillance and circumventing drug resistance, particularly in patients with leukemia.

California, recognizing the economic benefits of investing in bioscience, launched its $3 billion California Institute for Regenerative Medicine (CIRM), which supports stem cell science, in 2004. An additional $5.5 billion was approved by voters through a referendum in November 2020. At the same time, New York State terminated the Empire State Stem Cell (NYSTEM) program, which funded many early-career scientists, creating the conditions for a brain drain in stem cell research from New York.

CIRM is now focusing its funding on translational research – research that advances basic science from "bench to bedside" and towards the marketplace. California has long supported its life sciences industry, providing seed and other funding to startup companies launching from its academic institutions. As a result, California has the most robust life sciences sector in the U.S., with more than 14,000 life sciences companies employing nearly 335,000 people in 2021 and $79 billion in venture capital (VC) investment from 2018-21 (compared to 5,314 life sciences companies employing 110,000 people in New York State in 2021 and $18.4 billion in VC investment from 2018-21).

Many other states have followed similar paths: Massachusetts created its $1.5 billion Massachusetts Life Sciences Center to drive basic research and grow its bioscience sector; Connecticut invested $2.5 billion to expand its research ecosystem. Even states with relatively few major academic research institutions have made outsized investments that, on a per capita basis, are competitive with Texas, California, and Massachusetts.

New York must prioritize state investment in this area to ensure that we can retain our top scientists and attract new recruits.

NYFIRST Cycles 1-4

Employment

- Net new jobs (direct and indirect) created by NYFIRST recruitment in year 1: **101**
- Net new jobs (direct and indirect) created by NYFIRST recruitment in year 2: **68**
- Net new jobs (direct and indirect) created by NYFIRST recruitment in year 3: **14**
- Net new jobs (direct and indirect) created by NYFIRST recruitment in years 1-4: **156**
- Average salary of all jobs created by NYFIRST recruitment in years 1-3: **$77,802**

Institutional Matching Funds

- Total institutional matching funds in years 1-4: **An estimated $107.4 million**

Return on Investment

Since 2018, with $11.7 million invested by the State, NYFIRST has generated $107.4 million in matching funds through institutional investments. This represents a nearly 10:1 return on every State dollar invested in NYFIRST.

Closing

In 2022, AMSNY published a comprehensive economic impact report that demonstrates how essential our 17 academic medical centers – including their research enterprises – are to our state and regional economies. I would encourage members of the Assembly and others to review this report at your convenience:

https://amsny.org/wp-content/uploads/2022/10/AMSNY-Economic-and-Functional-Impacts.Final-Report-1.pdf

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

Respectfully submitted,
Jonathan Teyan, President and Chief Executive Officer

AMSNY Member Institutions
Albany Medical College
Albert Einstein College of Medicine
Columbia University Vagelos College of Physicians and Surgeons
CUNY School of Medicine
Icahn School of Medicine at Mount Sinai
Jacobs School of Medicine and Biomedical Sciences, the University at Buffalo
NYU Langone Health
New York Institute of Technology College of Osteopathic Medicine
New York Medical College
Renaissance School of Medicine at Stony Brook University
School of Medicine and Dentistry at the University of Rochester Medical Center
SUNY Downstate Health Sciences University
Norton College of Medicine at SUNY Upstate Medical University
Touro College of Osteopathic Medicine
Weill Cornell Medicine
Zucker School of Medicine at Hofstra/Northwell

NYSADC Member Institutions
Columbia University College of Dental Medicine
New York University College of Dentistry
Stony Brook University School of Dental Medicine
Touro College of Dental Medicine
University at Buffalo School of Dental Medicine
University of Rochester School of Medicine & Dentistry

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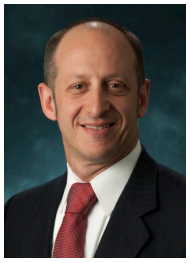
NYFIRST Awardees

Cycle 1 Awardees:

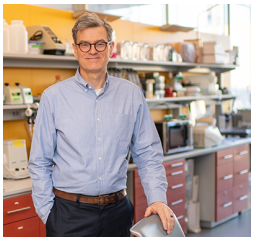


Columbia University Irving Medical Center recruited **Jordan Orange, MD, PhD, from Baylor College of Medicine in Houston, Texas**. Dr. Orange, chair of the Department of Pediatrics, is a highly regarded clinician scientist who applies advanced imaging techniques to understand the biology of genetic immunodeficiencies. Dr. Orange also serves as Pediatrician-in-Chief of the Morgan Stanley Children's Hospital of New York.

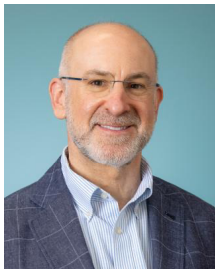
The University of Rochester recruited **Paula Vertino, PhD**, **a research scientist from Emory University in Atlanta, Georgia.** Dr. Vertino is recognized for her work on the role of epigenetics in cancer development and serves as the Associate Director for Basic and Translational Research at the Wilmot Cancer Institute and the Senior Associate Dean for Basic Research at the University of Rochester School of Medicine and Dentistry.

Icahn School of Medicine at Mount Sinai recruited **Trey Hedden III, PhD, from Harvard Medical School in Boston, Massachusetts.** Dr. Hedden's research focuses on applying innovative imaging techniques for age-related neurodegenerative disorders like Alzheimer's disease. His laboratory at Mount Sinai focuses on integrating multiple brain markers to help build a comprehensive picture of the relationship between brain function and cognition during aging and neurodegenerative disease.

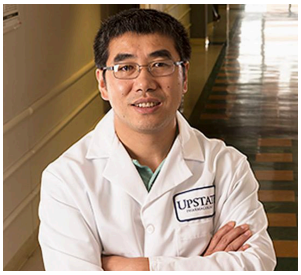
Cycle 2 Awardees:



Columbia University Irving Medical Center recruited **Simon John, PhD, from Jackson Laboratory in Maine** as a Professor and Howard Hughes Medical Institute Investigator. Dr. John currently serves as the Robert L. Burch III Professor of Ophthalmic Sciences at the Vagelos College of Physicians and Surgeons. Dr. John's research at Columbia is expected to lead to many patentable discoveries related to glaucoma and generalized visual degeneration.



The University of Rochester recruited **Steven Silverstein, PhD, from the Robert Wood Johnson School of Medicine at Rutgers University in New Jersey.** Dr. Silverstein serves as the George Engel Professor of Psychosocial Medicine, Associate Chair for Research in Psychiatry and Director of the Rochester Center for Brain and Retina. Dr. Silverstein's research focuses on the development of visual system biomarkers for neuropsychiatric disorders, especially severe mental illness and psychological consequences of vision loss.



SUNY Upstate Medical University **retained Juntao Luo, PhD,** to support his efforts to develop a unique approach to sepsis treatment. Dr. Luo has filed 15 patents and has been awarded seven patents since joining UMU in 2011. Dr. Luo is also interested in establishing startups to commercialize his technology and therapeutic products to develop a unique approach to sepsis treatment.

Empire State Development has completed five funding cycles to date.
Awards from Cycles 3 and 4 are expected to be announced soon.

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