



New York's Life Sciences Industry Enters High-Growth Phase for Investment & Job Creation

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PARTNERSHIP FUND
for New York City

Introduction

New York's life sciences industry has performed exceptionally well during the COVID-19 pandemic and will be a significant source of new jobs and business formation as communities across New York City and state rebuild their economies in the wake of the pandemic. The success of New York-headquartered Pfizer and Regeneron in producing the first coronavirus vaccine and effective therapeutic treatments for the virus have highlighted the region's emerging leadership in one of the world's fastest-growing industries. The Partnership Fund for New York City, the investment arm of the city's pre-eminent business organization, issued a blueprint for this development of New York's life sciences cluster in 2016, titled "[New York's Next Big Industry: Commercial Life Sciences.](#)" The Fund's report projected opportunities for rapid expansion of employment, economic output and business formation which have come to pass during the past five years, aided by \$1.2 billion in funding commitments from the Cuomo and De Blasio administrations.

City and state funding proved a catalyst for rapid mobilization of venture capital investors and real estate developers to join forces with entrepreneurs, medical research and health care institutions, world-class universities and pharmaceutical companies to establish the New York metropolitan region as a global scientific, therapeutic and commercial hub. The following report provides an update on the status of the New York life sciences industry, demonstrating its outsized importance to the region's economic recovery and future resilience in the post-pandemic world.

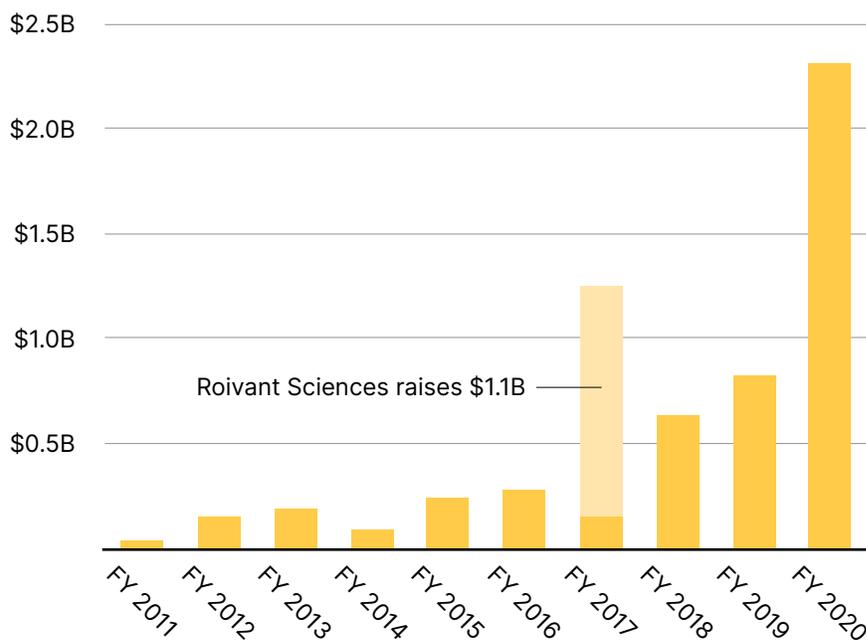
Closing the Investment Gap

Historically, New York has been a leader in life sciences discoveries and patents but lagged thriving commercial hubs in Massachusetts and California in capturing venture capital investment. Today, New York state and the New York City metro region, in particular, are closing the gap as publicly-funded accelerators identify promising local ventures and more private investment flows to New York startups.

PRIVATE INVESTMENT

Private investors poured a record \$2.3 billion into New York state life sciences companies between October 1, 2019 and September 30, 2020—nearly triple the \$820 million invested the previous year.¹ Only Massachusetts (\$6.2 billion) and California (\$11.0 billion) attracted more venture capital (VC) funding in 2020.² The five-year growth in VC investment in New York outpaced its top competitors six-fold.³ As a result, New York ranked 3rd in dollars among all states in 2017 and 2020, up from 9th in 2015 and 15th in 2011.

New York State Life Sciences Venture Capital Funding

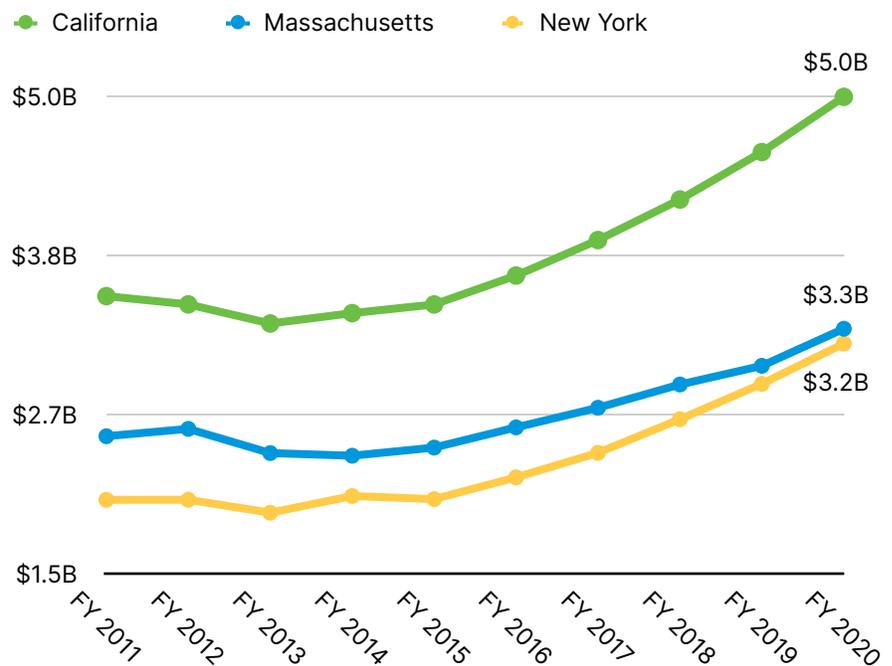


PUBLIC FUNDING

New York state's universities and research institutions also attracted a record \$3.2 billion of public funding in 2020.⁴ Much of the life sciences industry has been built on research spun out from universities, many of which receive competitively awarded public funding from the National Institutes of Health (NIH). Since 2016, New York's NIH funding has increased at an annual rate of 10%, faster than that of Massachusetts (6%) and California (8%), the only two states that attract more NIH funding.⁵

The New York City metro area attracted \$2.9 billion in NIH funding in 2020, also an all-time high.⁶ The NIH funding gap between the nation's premier life sciences cluster in Boston/Cambridge and the New York City metro region has contracted from \$728 million in 2011 and \$367 million in 2016 to just \$22 million in 2020.⁷

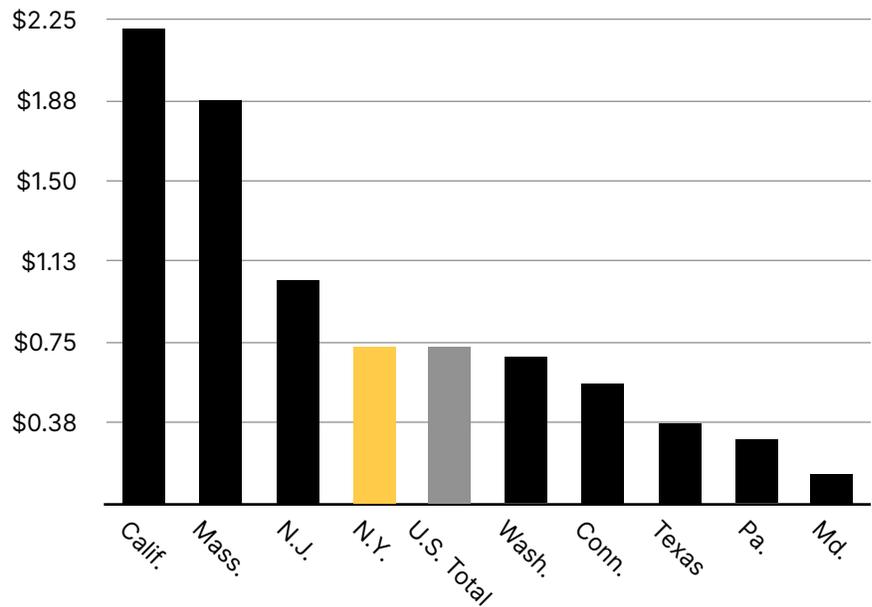
New York Attracted Record NIH Funding in 2020



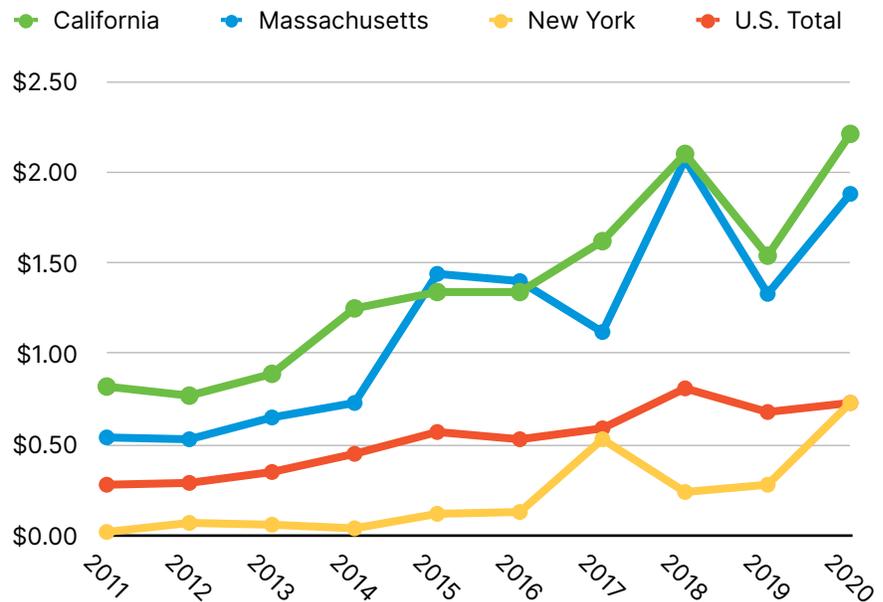
RATIO OF PRIVATE TO PUBLIC INVESTMENT

With new highs in NIH and VC funding, New York received 73 cents of VC funding for every dollar of NIH funding received in FY 2020, up substantially from 13 cents in 2016 and 6 cents in 2013. While still trailing Massachusetts and California, which received about twice as much VC investment as NIH dollars in 2020, New York is edging closer as private investors identify the state as an increasingly attractive hub for emerging life sciences companies.

Ratio of VC Investments to NIH Funding, Federal FY 2020



Ratio of Private (VC) Investments to Public (NIH) Funding in Select States



Economic Impact

Robust private and public investment has provided the foundation for the expansion of the city’s commercial life sciences sector, which has produced new highs in employment, economic output and business creation in recent years.

New York City

		2011-2016	2016-2020
Economic Output (GCP)	Life Sciences	5.4%	4.4%
	Total NYC	3.5%	1.5%
Business Formation	Life Sciences	4.1%	6.3%
	Total NYC	2.0%	1.2%
Employment	Life Sciences	1.5%	3.6%
	Total NYC	2.3%	-0.3%

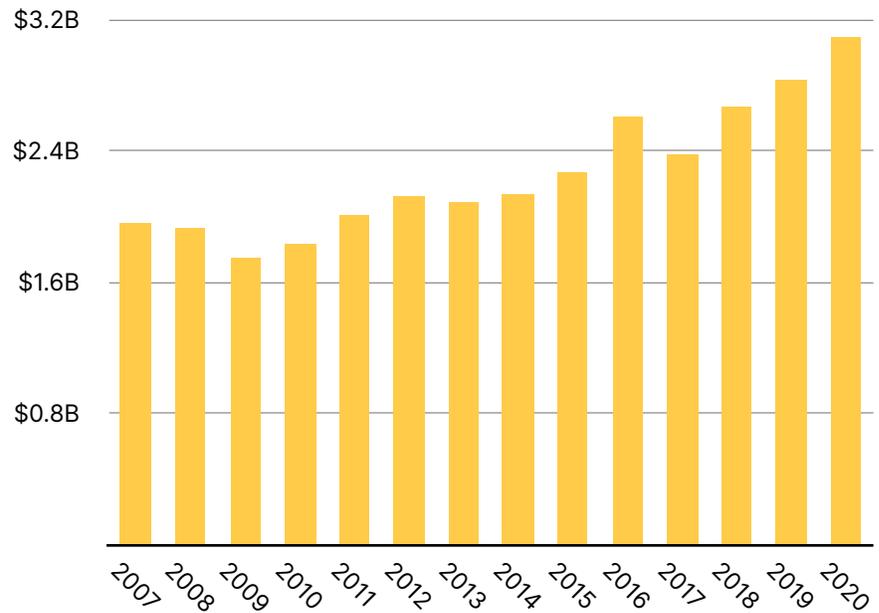
New York State

		2011-2016	2016-2020
Economic Output (GCP)	Life Sciences	3.2%	7.9%
	Total NYS	2.7%	0.8%
Business Formation	Life Sciences	2.7%	4.1%
	Total NYS	1.3%	0.7%
Employment	Life Sciences	0.9%	2.2%
	Total NYS	1.4%	-0.9%

Note: Data reflect compound annual growth rates; economic output defined as gross city product (GCP) inflation-adjusted to 2012 dollars using the Bureau of Economic Analysis’ implicit price deflator.

New York City Life Sciences Gross City Product

Note: GCP in 2012 dollars



CONTRIBUTION TO GROSS CITY PRODUCT

The city's life sciences industry contributed a record high **\$3.1 billion to the gross city product (GCP) in 2020**. Output in 2020 surpassed the high set in 2019 by 9% in a year where citywide GCP declined 4% due to the COVID-19 pandemic. Output from the city's life sciences industry increased 5% annually between 2011 and 2016, outperforming citywide economic growth of 3% over the same period. Life sciences GCP has increased 4% annually since 2016.⁸

NEW BUSINESS FORMATION

Life sciences businesses are forming at an increasing rate, signaling growing confidence in the city as a destination for life sciences activity. The number of life sciences companies in the city has increased 57% since 2011 and 28% since 2016 to 990 as of March 2020.⁹ Between 2016 and 2020, the city gained an average of 54 life sciences companies each year—up from an average of 28 from 2011 to 2016.¹⁰

More of the city's established startups are maturing into commercially sustainable businesses and landing large funding rounds. New York City-based life sciences startups secured a record 26 VC funding rounds worth at least \$20 million in 2020. This is up from the previous high of 24 rounds in 2019 and has more than doubled since 2017, when there were only 10 rounds in excess of \$20 million.¹¹

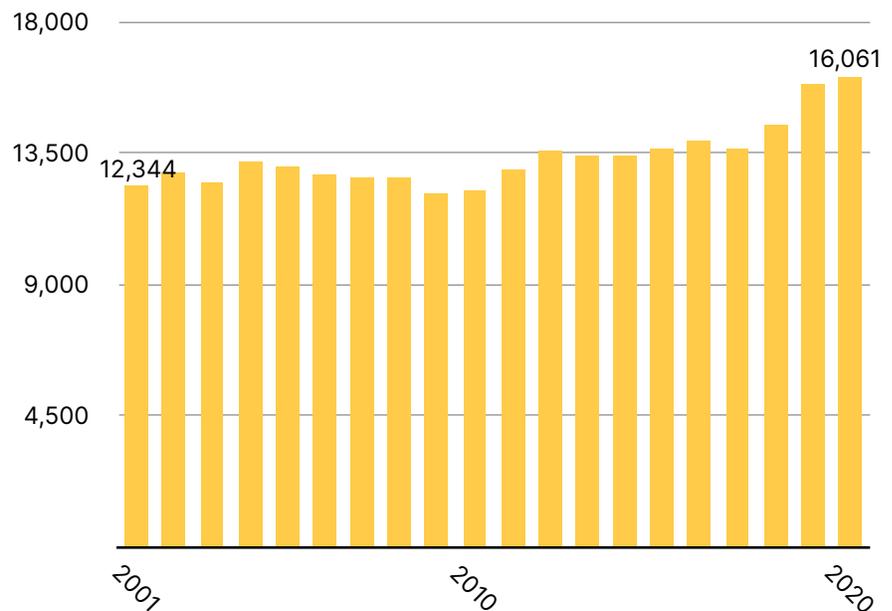
EMPLOYMENT

Life sciences employment in New York state has increased steadily over the past decade. The state added over 11,000 life sciences jobs between 2010 and 2020—an increase of 16%—bringing 2020 employment to 81,000. About 7,000, or 66%, of the new jobs were added after 2015.

Employment in the city’s life sciences industry has been strong since 2016:

- After declining slightly between 2001 and 2010, employment in the city’s life sciences sector has increased 31% since 2010 to 16,000 in 2020, outpacing life sciences growth in New York state and nationwide.
- Life sciences employment has increased at a 3.6% annual rate since 2016; citywide employment has declined slightly over the same period.
- Between 2018 and 2019, New York City life sciences employment increased 9%, the largest single-year increase in the past two decades.

New York City Life Sciences Employment



Life sciences is a small subset of citywide employment but a valuable contributor to the local economy:

- Every life sciences job in New York City supports 1.04 other jobs in the city and an additional 0.38 jobs elsewhere in the state.
- While 67% of the city's life sciences jobs are in Manhattan, the outer boroughs have accounted for 24% of life sciences jobs growth since 2016.
- The average annual earnings for a life sciences employee in New York City was \$142,000 in 2020, up 67% from \$85,000 in 2010.

Looking Ahead

Recent initiatives pave the way for continued growth of the region's life sciences industry:

- **The city and state continue to make investments to attract life sciences companies and incentivize industry growth.** In January 2021, Mayor de Blasio announced four grants totaling \$38 million to support translational biomedical research.¹²
- **New York state and the Partnership Fund for New York City partnered to incentivize venture fund SOSV to open their life sciences accelerator program, IndieBio, in New York City.**¹³ IndieBio launched its New York program on the campus of Rockefeller University in 2020. With support from the state and the Partnership Fund, IndieBio will provide needed pre-seed stage funding and expertise to help scientists launch new commercial life sciences ventures in New York.
- **The Partnership Fund has committed \$54 million to support the growth of commercial life sciences in New York over the past decade.** The Fund's BioAccelerate NYC Prize provided some of the first proof-of-concept funding in the city to accelerate the commercialization of academic research and catalyzed New York academic medical centers to raise over \$70 million of proof-of-concept funding for their researchers.

Endnotes

- 1 Partnership reports have analyzed VC data in PwC/ CB Insights MoneyTree Explorer’s “health care” category to measure life sciences venture capital activity. For this report, the Partnership analyzed VC data from PwC/CB Insights’ “Pharmaceutical and Life Sciences” (PLS) category. PLS is a subsector of PwC/CB Insights’ health care category that excludes health care service providers, and payers and software and digital platforms, providing a more precise measure of life sciences VC investment. The Partnership has adjusted previous years to account for the availability of more precise data.
- 2 PFNYC analysis of data from PwC/CB Insights MoneyTree Report; PwC tracks all equity financing received by US-based, VC-backed startups. PwC defines “VC-backed” as venture capital, corporate venture capital and super angel investors, all of whom are professional venture investors. PwC may revise past data due the acquisition of new data on historical rounds.
- 3 Note: The spike in New York’s life sciences in funding in 2017 is attributed to a \$1.1 billion funding round secured by Manhattan-based biopharmaceutical company Roivant Sciences in Q3 2017.
- 4 National Institutes of Health, “NIH Awards by Location & Organization,” January 8, 2021; NIH and VC funding totals are for federal fiscal years (FY 2020 runs October 1, 2019 through September 30, 2020).
- 5 Annual growth rates refer to compound annual growth rates (CAGRs) throughout.
- 6 New York City metro region includes New York City, Long Island and Westchester County in New York, and Bergen, Essex, Hudson, Middlesex and Union counties in New Jersey.
- 7 Boston/Cambridge metro region includes Suffolk and Middlesex counties.
- 8 PFNYC analysis of data from Emsi, Datarun 2020.4; current GDP adjusted to 2012 dollars.
- 9 Company defined as a payrolled business location, or single physical locations of economic activity.
- 10 PFNYC analysis of data from Emsi, Datarun 2020.4.
- 11 PFNYC analysis of data from Crunchbase Pro, 2020 data as of February 2, 2021; includes venture funding rounds of at least \$20 million for New York City-based startups in the biopharma, biotechnology, health diagnostics, life science, medical device and pharmaceutical industries.
- 12 Mayor’s Press Office, “State of the City Preview,” January 21, 2021; accessed at <https://www1.nyc.gov/office-of-the-mayor/news/047-21/state-the-city-preview-new-york-city-invests-38-million-new-biotech-centers>.
- 13 Partnership for New York City, “Governor Cuomo Announces Leading Life Science Accelerator IndieBio To Open in New York City,” July 19, 2018; accessed at <https://pfnyc.org/news/governor-cuomo-announces-leading-life-science-accelerator-indiebio-to-open-in-new-york-city/>.

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