

Big 4 Bio

PHILADELPHIA

YEAR IN REVIEW

2020





2020 will be remembered as the year that everyone would like to forget. But the life sciences sector provided one of the few rays of hope in a very dark time.

Bringing not one but two vaccines to market in less than ten months is an unprecedented, if not

miraculous, feat. Researchers at companies large and small pivoted their diagnostic, vaccine and therapeutic programs to address the challenges of the pandemic. Venture investors stepped up, demonstrating their faith in the industry by more than doubling their investments in Boston life sciences companies.

This report crunches the numbers that tell the story of a sector rising to the occasion. As always, we couldn't do it without our data partners DealForma and JLL. We also thank MassBio for sharing their insights.

Stay tuned to Big4Bio's daily summary of industry newsletters [Big4Bio.com] to see how the pandemic, hopefully, plays itself out and how the industry moves forward.

Tilton Little, Executive Director, Publisher
Big4Bio



Industrialist Henry J. Kaiser is remembered for the adage, "Problems are only opportunities in working clothes." Perhaps it is fitting that the man who transformed healthcare delivery coined the phrase that so aptly sums up the life sciences sector in 'the year that has been like no other'.

For the life sciences industry, 2020 delivered both problems and opportunities in spades. Innovation and investment soared as the world confronted a pandemic the likes of which hasn't been seen in a century. Moderna, a previously stealthy Boston biotech company, became a household name. Diagnostics became sexy. Infectious disease therapeutics made headlines.

Crises can create sea-changes. The pandemic has spurred an explosion of innovation that, with hope, will be maintained well beyond the current crisis. But the pandemic has also put a spotlight on the industry that won't disappear after the current crisis. The industry needs to prepare for a new reality where they will be subject to much more public scrutiny.

For more than a dozen years, I have helped life sciences companies take control of their messaging and communicate with stakeholders who sometimes have competing or conflicting agendas. I can help you manage the new realities you may face in the coming year. To learn more, visit www.KMAandCo.com or email me at cassie@KMAandCo.com.

Cassie Arnold, Founder
KMA & Company

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Life Science Industry Market Facts

Overview

- The Greater Philadelphia region enjoyed 19 percent employment growth in 2020 and a six percent increase in the number of life sciences companies, putting it on par with San Diego.
- The region saw NIH funding grow 17 percent to \$1.2 billion, beating out San Diego and rivaling the San Francisco Bay Area.
- Rent for office and lab space averaged \$34 per square foot, by far the lowest rate of the Big4Bio regions.



1,738
Companies



69,565
Employees



\$118,319
Average Salary



4.9%
YOY Increase



7.1%
5-year Employment
Growth



4.4%
5-year
Enterprise Growth



\$1.2B
NIH Funding



12m sq ft
Real Estate
Inventory



6%
Lab
Vacancy Rate



\$34/sq ft (NNN)
Rent per Sq ft

(Data Source: JLL)

Top NIH Recipients (by number of grants)

1,140

**University
of Pennsylvania**

272

**Children's Hospital
of Philadelphia**

190

**Temple
University**

Top Covid-19 Stories

Given the predominance of COVID-19 news coverage in 2020, we have broken out our ranking of the top Big4Bio stories of the year into COVID-19 and non-COVID-19 related stories.

Among COVID-19 stories, the trials and tribulations of vaccine production and a public company surrendering its PPP loan topped the news. In other news, financings and the prospects for the Greater Philadelphia life sciences cluster caught our readers' eyes.

1. COVID-19

Another Philadelphia-area public company is returning its PPP loan

In May, Heliuss Medical Technologies joined three other publicly-traded life sciences companies in immediately repaying its PPP loan.

[Full Article >](#)

Inovio stock plunges more than 34% as FDA puts Covid-19 vaccine trial on hold

The FDA put a partial clinical hold on Inovio Pharmaceutical's COVID-19 Phase II/III trial in September.

[Full Article >](#)

Inovio signs manufacturing deal with Thermo Fisher for Covid-19 vaccine candidate

In early September, before the FDA clinical hold, Inovio signed a letter of intent with Thermo Fisher Scientific for the latter company to manufacture Inovio's experimental COVID-19 vaccine candidate.

[Full Article >](#)

Philly scientist behind COVID vaccine tech was demoted by UPenn, yet she persisted

Dr. Katalin Karikó is recognized for work on mRNA after it was dismissed at the time by UPenn where she worked as a researcher.

[Full Article >](#)

2. Non-COVID-19

Latest Penn biotech spinout taking on cancer raises \$1.6M from investors

Interius BioTherapeutics, a spin-out from UPenn targeting cancer, announced at the end of March that it raised \$1.6 million in a Series A round.

[Full Article >](#)

Philadelphia startup lands \$3.3M from investors, including Shark Tank's Mark Cuban

In April, a Philadelphia-based agricultural biotech startup focused on reducing food waste, Strella Biotechnology, raised a seed funding round worth \$3.3 million.

[Full Article >](#)

Is Philadelphia's biotech cluster faltering? Experts say no, even as funding dwindles

In November, STAT claimed that Philadelphia's biotech cluster was fading due to a drop in venture funding year-over-year.

[Full Article >](#)

How Philly's Bioscience Sector Is Driving the City's Next Big Real Estate Boom

Philadelphia Magazine also examined the prospects of the region's biotech cluster after its break-out year of 2019.

[Full Article >](#)

Financings

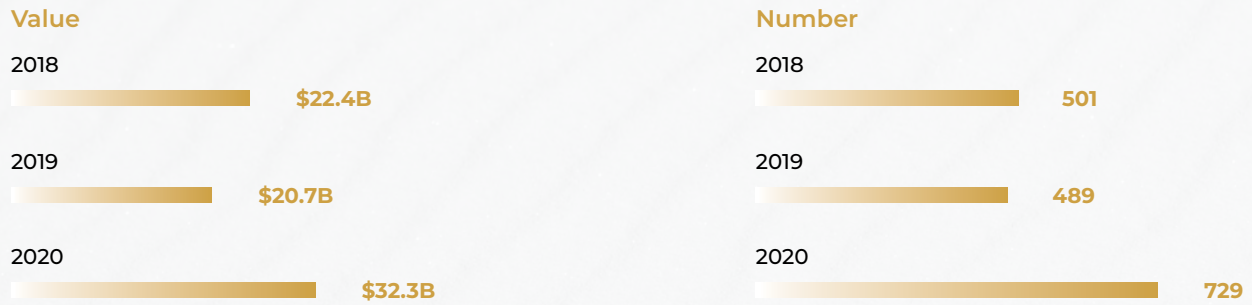
Venture investment in Greater Philadelphia life sciences companies dropped a dramatic 47 percent in 2020, a year when life sciences venture investment increased 56 percent nationwide.

However, this need not be cause for alarm. 2019's numbers were inflated due to \$466 million in early-stage money that went to two cell therapy companies: Passage Bio and Century Therapeutics. Taking out those deals, life sciences venture investment actually increased 25 percent in 2020.

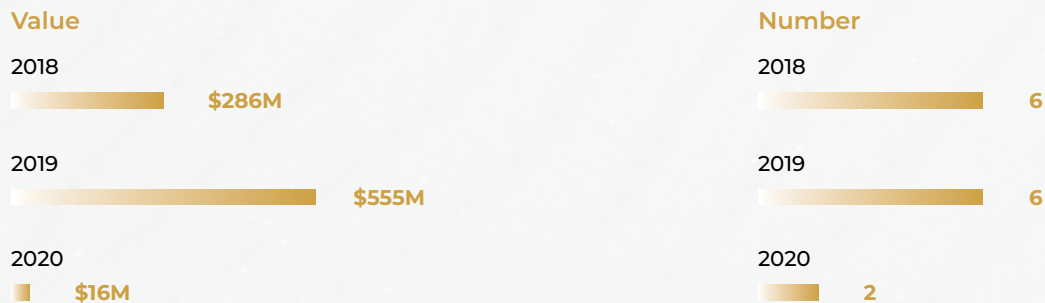
Greater Philadelphia Venture Rounds (Biopharma, Medtech, Diagnostics)



All US Healthcare and Life Sciences Venture Rounds



Greater Philadelphia Seed and Series A Rounds



Top three deals

- ImVax, a cancer vaccine company, received the largest venture investment in the Greater Philadelphia region in 2020 in the form of a Series C round for \$112 million that closed in July.
- PMV Pharmaceuticals took in the second largest venture round in the market in August. The cancer therapeutics company closed a Series C round valued at \$70 million.
- Three companies had \$50 million rounds: NiKang Therapeutics, closed a Series B round in September, Prelude Therapeutics closed a C round in August, and Slayback Pharmaceuticals closed a B round in January.

M&A

Among the M&A deals where the terms were disclosed, there is only one significant acquisition in Greater Philadelphia.

Engage Therapeutics was acquired by UCB of New Jersey for \$270 million. The deal includes \$125 million in upfront money and up to \$145 million in development and commercial milestones. The acquisition strengthens UCB's neurological portfolio with Engage's Phase II Staccato Alprazolam.

2021 Outlook

The critically important work of the life sciences industry globally has been front and center as health care providers, researchers, manufacturers and distributors collaborate to respond to the coronavirus pandemic. Among the contributions from those in the Greater Philadelphia region's life sciences cluster is extensive knowledge from decades of research and discovery, including in the areas of coronaviruses, vaccine development, and messenger ribonucleic acid (mRNA), among others. The pace of research accelerated in 2020 and that will no doubt continue in the coming year. Also, the advances in the technology and education that enable telehealth allowed regional providers to rapidly expand their reach and capabilities in unprecedented ways, yielding novel benefits in quality and improving accessibility to care. Telemedicine is here to stay and is a trend to watch in 2021.

Investment in the life sciences skyrocketed last year and there are currently no signs that it will level off before the third quarter. Greater Philadelphia continues to attract its share of private capital, much of which can be expected to flow into healthcare IT, oncology, and rare disease-focused firms, all of which have performed well in recent years. Investor interest in the cell and gene therapy (CGT) subsector is a more recent phenomenon, and in this arena the Philadelphia region stands out. With its promise of helping to manage and sometimes even cure previously untreatable conditions, CGT is among the most exciting and promising subsectors of the life sciences and one in which Greater Philadelphia has long been an R&D leader.

The strong and growing capacity to attract investment is strengthening the region's reputation as a global epicenter for these fields, encouraging company starts and fueling growth of existing firms. Greater Philadelphia is now home to 36 cell and gene therapy research and development companies, as well as numerous supporting firms specializing or expanding to support precision medicine. 2021 can be expected to bring additional players onto the scene.

Accompanying the growing number of life sciences firms in the region is a commensurate need for the specialized land, building, and wet labs they require. Numerous new real estate development projects are currently in the planning stages or underway both within the city limits and in surrounding communities. Progress on these will continue and new ones may well be announced.

The Greater Philadelphia region will undoubtedly be placing an emphasis on talent attraction and training. The region's life sciences leaders in business, academia and government recognize that strong sector growth requires a steady stream of talent and they have made clear that they intend that growth to be inclusive of a broad cross section of the population. One 2020 study projected workforce growth for the cell and gene therapy subsector alone to be between 35 percent and 94 percent in the next 10 years, using mid-range growth estimates.

Watch for announcements of new training centers, academic programs, and talent attraction initiatives in 2021 to continue as the industry reacts to the great potential for job growth.

As pandemic response and recovery continue to be a priority in 2021, so will prioritizing the very necessary work of addressing health care disparities and social determinants of health.

Summary

2020 saw record levels of investment and innovation. It also saw a divisive presidential election, economic turmoil, and a social justice awakening.

After a year like 2020, it seems foolhardy to make predictions, but here goes. A Biden administration should bring healthcare and drug pricing reform, now informed by the experience of the pandemic. That will be a focus on the resilience of both our healthcare delivery system and pharmaceutical and device supply chain. The concept of 'equity' will play a prominent role in all policy decisions.

The life sciences sector may not enjoy the unprecedented levels of funding it saw in 2020, but the momentum of the last year should ensure investment remains at historically high levels. Generalist investors who have avoided the sector in the past will be more comfortable as a result of all of the visibility the sector and the nuts of bolts of drug development and commercialization has received during the pandemic.

But that increased visibility brings its own challenges. A bright light has been shown on the 'sausage making' of clinical trials and drug development. Going forward stakeholders from politicians to administrators to patients will expect and demand more visibility into, and influence over, how therapies are developed and brought to market.

Year-in-Review Data and Information Partners





Wow, what a year thinking back over the past 12 months. As a company we quickly went into an action as the world around was in such a state of upheaval. So, I thought I would share some of our year's accomplishments and how remarkable it's been.

After we shut down the office on March 12th, we moved seamlessly into virtual mode without missing a beat. One thing we did almost immediately was to create and sustain a community of leadership in thought and action. On March 18th, one week after our shut down, we began weekly town halls to create an environment for peers to share ideas on how to navigate the challenges. We continued our tradition of holding monthly Clinops breakfasts and moved our Speaker Series virtual. The growth and collaboration in our community was astounding. Over the course of the past 8 months, we held 35 virtual events with over 3000 attendees as we shared insights on navigating the pandemic!

We created a new offering to respond to the pandemic supporting our clients who were impacted by the clinical trials interruption. We have been working with leading clients who have embraced the goal of resilient clinical trials with a focus on data access and analytics, decentralized trial technology and services, and risk management, and we joined Decentralized Trial & Research Alliance as a founding member to bring technology into mainstream practice.

Our clients sought our expertise on more than 30 COVID related programs and efforts, and our work has paved the way for 6 FDA approvals this year alone, bringing new treatments for multiple types of cancers, cardiovascular, ultra-rare and rare diseases to patients without treatment.

Our efforts will never stop as we continue to support our community and push innovation forward!

Laurie Halloran
CEO, Halloran Consulting



\$52.6M Invested in
94 Life Science Companies, attracting
\$3.2B In additional dollars

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