

# Big4Bio

PHILADELPHIA

**YEAR IN REVIEW**  
**2022**

# Introduction

What a difference a year makes. 2021 had been a record-breaking year for investment according to virtually every metric. But after a strong start in the first quarter of 2022, the bear market took hold. Life sciences venture investment in Greater Philadelphia dropped by \$900M year-over-year. While those numbers look grim, if we set aside 2021 as an outlier in terms of venture investment, the 2022 numbers show steady and sustainable growth over 2019.

The bear market is the result of macroeconomic issues rather than the performance of any particular region or sector. When the Federal Reserve Bank started raising interest rates for the first time since 2008, tighter credit and fears of a recession caused public and private investors across the board to pull back.

From mid-January year-over-year the Dow Jones Industrial Average dropped from 35,300 to 33,900, up from its nadir in late September of 28,700. The tech heavy Nasdaq dropped 23% during the same period. In contrast, the Nasdaq Biotech Index was up slightly year-over-year from 4,200 a year ago to 4,400 in mid-January after dropping as low as 3,300 in June.

So, it is in the spirit of “things could be worse” that we take a look back at the year that was.

PRESENTED BY:

**Big4Bio**



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# Life Science Industry Market Facts

## Overview

- The number of life science companies in the Greater Philadelphia market grew 5% year-over-year to 1,946, which matches the number of companies in San Diego in 2022.
- Employment remained steady in 2022, but the average salary dropped 16.5%.
- Rents for lab space dropped 5.6% while the vacancy rate remained steady at 7%.



**1,946**  
COMPANIES



**71,286**  
EMPLOYEES



**\$111K**  
AVERAGE SALARY



**14.8%**  
5-YEAR  
ENTERPRISE GROWTH



**5.8%**  
5-YEAR  
EMPLOYMENT GROWTH



**\$1.42B**  
NIH FUNDING



**7%**  
LAB VACANCY RATE



**\$43.64**  
ANNUAL RENT  
PER SQ FT

AS OF Q3

## Top NIH Recipients

### VALUE

**\$668M**

UNIVERSITY OF  
PENNSYLVANIA

**\$155M**

CHILDREN'S HOSPITAL  
OF PENNSYLVANIA

**\$80M**

THOMAS JEFFERSON  
UNIVERSITY

### NUMBER OF GRANTS

**1350**

UNIVERSITY OF  
PENNSYLVANIA

**302**

CHILDREN'S HOSPITAL  
OF PENNSYLVANIA

**195**

THOMAS JEFFERSON  
UNIVERSITY

# Top Stories of 2022

Amid stories about job cuts and reorganizations, our readers also favored stories about new business formations and growth.

## **Aclaris Therapeutics Expands Leadership Team; Appoints James Loerop as Chief Business Officer, Feb 1, 2022**

Aclaris Therapeutics, Inc. (NASDAQ: ACRS), a clinical-stage biopharmaceutical company focused on developing novel drug candidates for...

## **After failing to secure more funds, a private gene therapy developer lays off staff, April 28, 2022**

Last Friday, SwanBio Therapeutics laid off about one-quarter of its 60-person workforce, a person with knowledge of the matter told Endpoints News....

## **Integral Molecular Breaks Ground on New Headquarters, Doubling in Size, May 24, 2022**

Integral Molecular, the industry leader in membrane protein solutions, announced today that it is starting construction of its new scientific...

## **Aclaris Therapeutics Expands Leadership Team; Appoints Gail Cawkwell, MD, PhD, as Chief Medical Officer, June 27, 2022**

Aclaris Therapeutics, Inc. (NASDAQ: ACRS), a clinical-stage biopharmaceutical company focused on developing novel drug candidates for...

## **Endo International says it expects to file for bankruptcy protection, Aug 10, 2022**

The company, in SEC filings last year, stated that because it has not been able to settle a majority of its opioid-related claims it was exploring a "wide array...

## **Inovio agrees to shell out \$44M to settle Covid-19 vaccine lawsuit, Aug 24, 2022**

Three months after bringing on a new CEO, Inovio has reached a settlement with investors over accusations that it exaggerated progress on its Covid-19 vaccine...

## **Capstan Therapeutics Launches with \$165 Million to Deliver on the Clinical Promise of Precise In Vivo Cell Engineering, Sept 14, 2022**

Capstan Therapeutics, Inc., a biotechnology company dedicated to developing and delivering precise in vivo cell engineering to patients, launched today with...

## **Sesen Bio and Carisma Therapeutics Announce Merger Agreement, Sept 21, 2022**

Sesen Bio, Inc. (Nasdaq: SESN) and Carisma Therapeutics Inc. (Carisma), a privately held, clinical stage biopharmaceutical company focused on discovering...

## **Idera Pharmaceuticals Acquires Aceragen, Sept 28, 2022**

Idera Pharmaceuticals, Inc. ("Idera," the "Company," "we," "us," or "our") (Nasdaq: IDRA) today announced it has completed the acquisition of Aceragen, Inc....

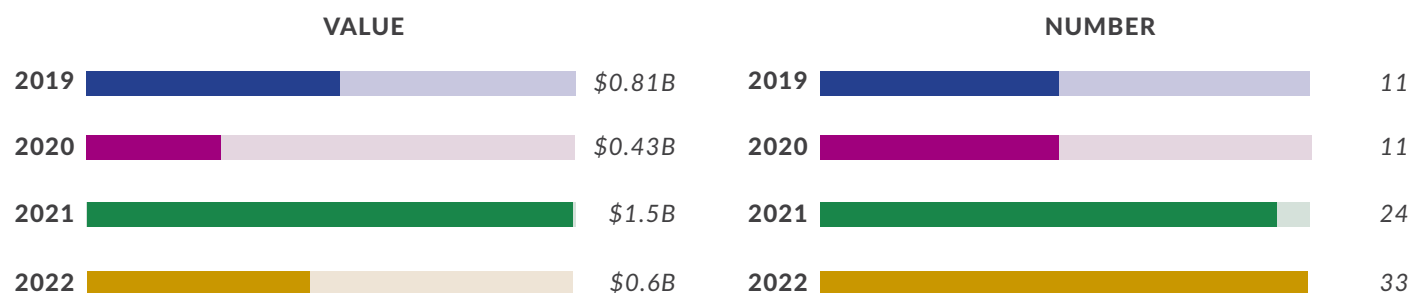
## **Penn spinout iEcore raises \$65M to advance its gene-editing technology, Nov 30, 2022**

The firm previously raised \$50 million in a Series A financing that closed in September 2021...

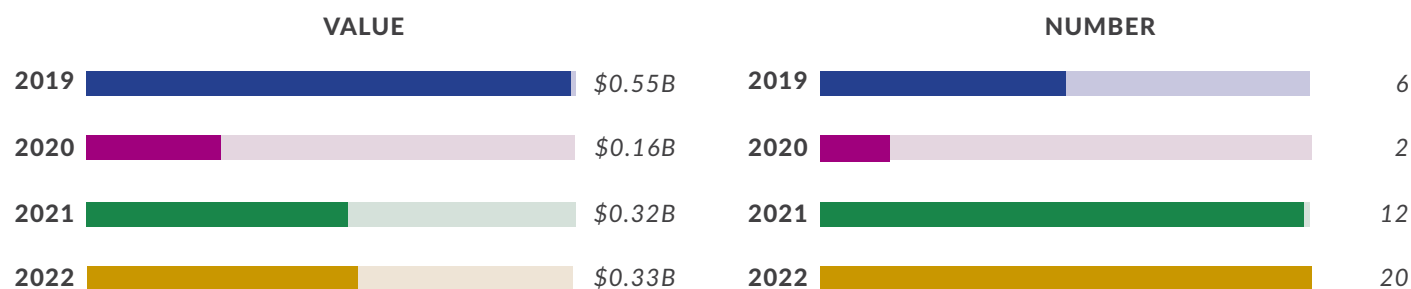
# Financings

Venture investment in life sciences companies in Greater Philadelphia dropped by almost a billion dollars year-over-year, but if we set aside 2021 as an outlier, the \$600M raised in 2022 is a healthy increase over 2020's \$430M. And, as in other markets, funding for early-stage companies was consistent with 2021 levels.

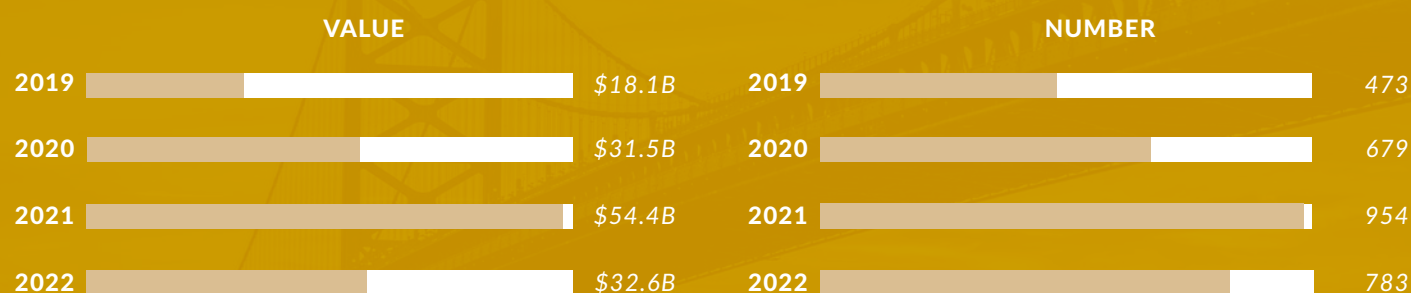
## Philadelphia Area Venture Rounds (Biopharma, Medtech, Diagnostics)



## Philadelphia Seed and Series A Rounds (Biopharma, Medtech, Diagnostics)



## All US Healthcare & Life Sciences Venture Investments





# Financings

## Top Three Deals

- The largest investment round of the year was a Series B round valued at \$118M in Radnor, PA-based Mineralys Therapeutics, which is developing novel therapeutics for the treatment of hypertension. RA Capital Management led the investment round.
- Hatfield, PA-based Code Biotherapeutics received \$75M in a Series A round that was led by Northpond Ventures. The company is developing next-generation gene therapies for rare and prevalent genetic diseases.
- IECURE, based in Plymouth Meeting, took in a \$65M Series A1 investment led by Novo Holdings. The company is developing gene therapies for the treatment of liver disorders.

## M&A

The largest M&A deal of the year was actually a bit outside of the Greater Philadelphia market, but in a year with few transactions, it's worth noting. Pittsburgh-based Channel Biosciences was acquired for \$1.2B by Biohaven. Channel, which develops therapies for epilepsy and other neurologic conditions, received \$100M in an upfront payment in the form of \$65M in Biohaven shares and \$35M in cash. Additional payments depend on the achievement of various milestones.

In the second largest deal, Viartis is acquiring Princeton, NJ-based Oyster Point Pharma for \$424M in upfront payments and the potential for \$39M in additional payments based on the company's assets achieving certain sales goals. Oyster Point's lead asset is approved for the treatment of dry eye disease.

Rounding out the significant deals of 2022, Enalare Therapeutics, also based in Princeton, NJ, has granted Eagle an option to acquire the company. The deal is valued at \$233M with \$25M in upfront payments. Enalare is developing therapies for the treatment of pulmonary diseases as well as depression and sleep apnea.

## IPOs

The IPO window was slammed shut in 2022 for Greater Philadelphia area life sciences companies. There was a total of only eight life sciences IPOs in the US in 2022, down from over 70 in 2021. The chill on initial public offerings wasn't limited to the life sciences sector. Only \$18B was raised in IPOs across all industries in the US in 2022 down from a record-setting \$275B raised in 2021.



# Life Science Cares Philadelphia 2022 Recap

## A Year of Building Foundations in Philadelphia

Like the Philadelphia sports teams that we love so much, it took LSC Philly a couple of years to find our footing and momentum. Our launch happened on the dawn of Covid-19, and we pivoted our first life cycle to support critically needed Covid relief efforts. Phase two found us searching for a captain, and we discovered the perfect match in our dynamic Executive Director, Morgan Berman. Morgan galvanized our efforts throughout 2022, leading our first full year of LSC events, grantmaking, volunteering, internships, and community building.

Our life science community raised nearly \$350,000 in direct funding to our nonprofit partners, and then supercharged that funding by volunteering at their sites, hosting drives to meet their needs, and amplifying their research-based solutions for disrupting cycles of poverty in our city. Our community's support allowed us to grow our team to include a Director of Development, Brandi Burgess. Our Board of Advisors served on committees across all of our programs, mentoring us as we grew into our mission. We had ambitious goals for 2022, and thanks to all of you, we were able to meet every metric. We are reaching even higher for the year ahead.

We are poised to accelerate our growth and impact in 2023; we look forward to continuing in partnership with you. Stay tuned for updates, and please reach out to us, we love being connected.

[Morgan@lifesciencecares.org](mailto:Morgan@lifesciencecares.org) | [Brandi@lifesciencecares.org](mailto:Brandi@lifesciencecares.org)

## OUR 2022 IMPACT BY THE NUMBERS

**\$350K**

INVESTED IN 20  
NONPROFIT PARTNERS

**100**

LIFE SCIENCE  
COMPANIES ENGAGED

**500**

VOLUNTEERS

**150+**

TOTAL HOURS  
VOLUNTEERED

**55**

MEMBERS ON OUR  
BOARD OF ADVISORS

**20**

CORPORATE PARTNERS

**\$25,000+**

WORTH OF GOODS DONATED TO  
NONPROFIT PARTNER ORGANIZATIONS





## OUR MISSION: Need + Opportunity

**THE NEED:** Too many of our neighbors are living in poverty; struggling to meet basic needs, obtain an education, and earn a living wage.

**THE OPPORTUNITY:** Life science companies and their employees are motivated to make a positive impact through volunteering, investing, and raising awareness of the issues of poverty and inequity.

Life Science Cares provides a platform for companies and their employees to make a difference. We make impactful grants to community nonprofits that are implementing research-driven solutions in the areas of survival, education, and economic sustainability and supercharge these grants with volunteer hours, donated goods, strategic support, and advocacy.

The organization is a collective effort of life science companies to eliminate the impacts of poverty on our neighbors and currently operates in five communities: Boston, Philadelphia, San Diego, the Bay Area and New York.

### 2022 Highlights

- ➔ We hosted our Impact Reception in the spring of 2022, connecting our nonprofit partners to our network of Life Science industry leaders, mobilizing them to come together to disrupt cycles of poverty. Our impact reception had over 180 attendees, and raised \$100,000 toward our grant-making efforts
- ➔ LSC Philly developed a Theory of Philanthropy with our Board of Managers, providing transparency and accountability for our funding priorities and our trust-based philanthropy
- ➔ We grew our advisory network and corporate partners by 20%
- ➔ We hired our first Director of Development, Brandi Burgess, who joined Executive Director Morgan Berman as the second LSC Philly staffer
- ➔ LSC Board of Advisors volunteered on committees across all of our programmatic initiatives, providing thought leadership as we grew our impact
- ➔ We hosted our first ever Mini Golf for Good event, which welcomed over 200 attendees, featured our nonprofit partners, and raised \$50,000 toward our grantmaking efforts
- ➔ LSC Philly honored our Board of Advisory network in a special reception in late fall

- ➔ We launched a second grant cycle opportunity that will occur annually, focused on nonprofits launching new initiatives- we awarded three \$20,000 innovation grants in this cycle, bringing new nonprofit partners into our cohort
- ➔ LSC Philly participated in its first Holiday Helpers Drive, amplifying winter-centric needs for our nonprofit partners. Our corporate partners donated winter clothing, hosted food drives, and provided toys for families in need
- ➔ LSC Philly welcomed a new Board member, Felicia Rinier, Executive Director of the Greenlight Fund in Philadelphia
- ➔ We placed 10 summer interns in life science companies through our first iteration of Project Onramp, which places college students from underrepresented backgrounds in life science internships and mentors them throughout the experience.





## Looking Ahead

- ✔ We plan to double our grantmaking impact in 2023, providing recurring support for our current nonprofit partners, and welcoming new grantees into our cohort
- ✔ LSC Philly plans to add two more Board members in 2023
- ✔ LSC Philly will triple our impact with Project Onramp, placing 30 students in life science summer internships
- ✔ We will continue to grow our Board of Advisor network and our Corporate Partnerships
- ✔ Save the Dates for our 2023 signature events are live on the LSC website!
- ✔ We will share out about our Theory of Philanthropy and our models of relational philanthropy
- ✔ We will hire a Programs manager, which will allow us more capacity to engage our corporate network with our nonprofit partners, resulting in massive increase in volunteer hours and donated goods





# 2023 Outlook

## Life Sciences PA

It's no secret that the business community across the United States and around the world faced significant economic headwinds throughout 2022 and into 2023. Rising interest rates and fears of recession kept a great deal of capital on the sidelines, particularly for higher-risk industries and ventures. The life sciences community was not immune to these challenges.

While the life sciences industry often finds itself catching the spears of volatility during market uncertainty, strong science and strong management talent will pull the life sciences out of the downturn. According to the Pennsylvania Life Sciences Economic Impact Report published in September 2022, Pennsylvania is responsible for a significant share of life sciences graduates when compared to peer states, ranking third in the country in the number of life sciences degrees awarded. This is cause for optimism as it reflects a pipeline of talent, a core ingredient for a bright future. Strong science and effective and successful management teams across the Pennsylvania ecosystem – both on dramatic display at the recently concluded JP Morgan Healthcare Conference in San Francisco – are the other ingredients that will once again open the spigots of the final ingredient: capital.

As business and industry look to brighter days in 2023 – and pastures greener with capital – public policy that supports innovation and company growth must be encouraged and advanced. There are many public policy and government-related considerations that can ignite such growth. In Pennsylvania, an infusion of funding at year-end 2022 from the State Small Business Credit Initiative (SSBCI) allocates \$246.8 million to local economic development partners to make direct equity investments and loans to small businesses. We were especially pleased to see \$123 million of this funding directed to the Life Sciences Greenhouses and the Ben Franklin Technology Partners. This represents a significant investment available to innovative early-stage and start-up companies – companies that comprise a large portion of Pennsylvania's life sciences community.

The election in 2022 also brought a new gubernatorial administration, a new U.S. Senator, and 50 new Pennsylvania state legislators with whom come opportunities to build new relationships on the foundation of creating policies that support innovation. The Greater Philadelphia region – the birthplace of cell and gene therapy – will also remain a leading recipient of NIH funding, with many research institutions in the region benefiting, and many start-up enterprises being formed.

Lastly, as investor capital becomes sparse across many industries, partnerships between large pharma and small start-ups will provide investment in the ecosystem amid patent cliffs for larger organizations, and breakthrough technology from emerging companies. The region will brace for impact at the start of 2023, and will emerge stronger with lasting partnerships and cutting edge discoveries that will propel the industry, the investment community and the talent into the future...all in the pursuit of solutions for the ultimate beneficiaries: patients.



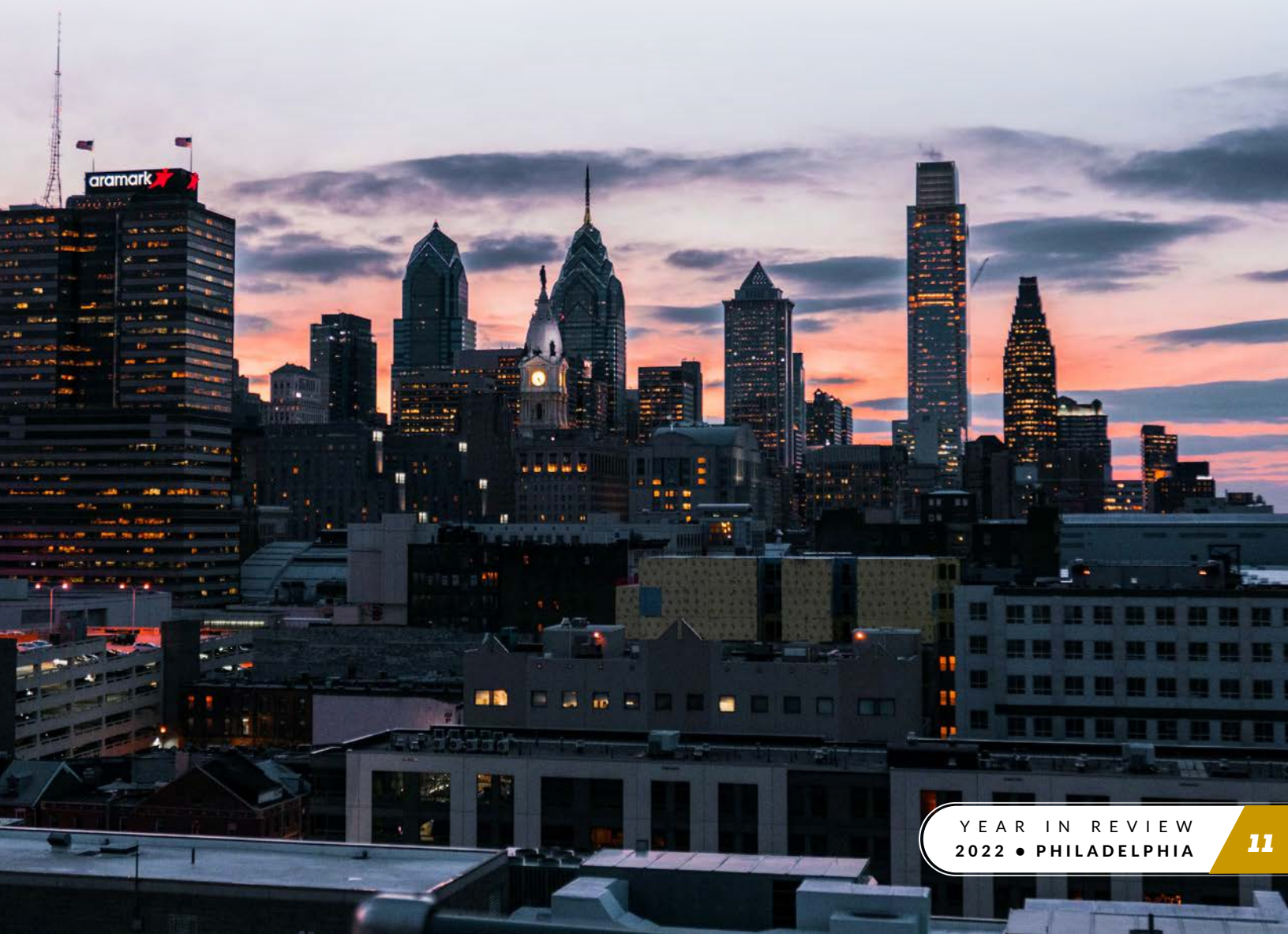
# Conclusion

As emergency Covid measures were dialed back, the world economy found itself facing serious headwinds by the second quarter of 2022 fueled by price inflation, tighter credit and, to top it off, a war on the eastern fringe of Europe.

The life sciences sector is not immune from these macroeconomic forces, but there are signs that it is faring a bit better than the economy overall. Early-stage investment remains stable. On the public investment side, the Nasdaq Biotech Index, which began its decline in September 2021 is back above January 2022 levels.

With the IPO window still firmly shut, venture investors will have to put more capital into the LIPO (“Likely to IPO”) companies in their portfolios and impose harsh new spending priorities on all of their companies. But it appears that there is still an appetite for investment in Seed and Series A companies.

And while M&A activity was anemic in 2022, buyers are sitting on a lot of dry powder (as are VCs) while they inch nearer and nearer to the patent cliff. It is expected that money will be put to work before the end of the year as the macroeconomic picture improves towards the end of the year.





# Telling Stories

## with Numbers

I work with companies in the life sciences space to help them tell compelling, persuasive and well-researched stories.

*What story can I help you tell?*

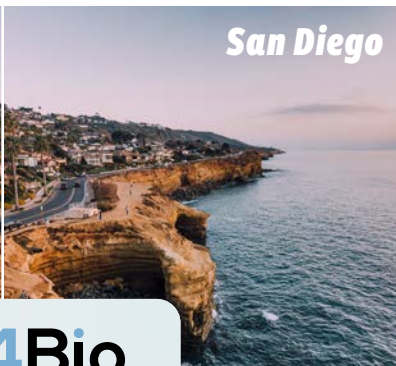
**Boston**



**Philadelphia**



**San Diego**



**San Francisco**



**Big4Bio**

**BIG NEWS!** Big4Bio is expanding to Big8Bio!

— These 4 new regions —

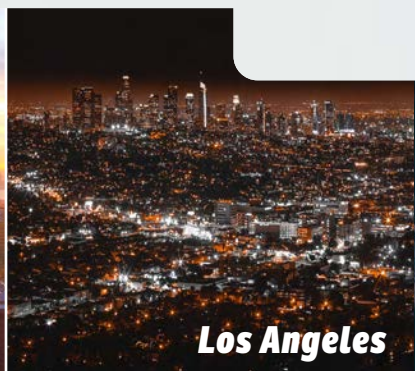
**NEW YORK CITY, LOS ANGELES, SEATTLE, AND WASHINGTON DC**  
will be joining us SOON!

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**Los Angeles**



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**Washington DC**





# Philadelphia Sponsors

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to **Big4Bio** 2022 Sponsors!  
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## Premier Sponsors



## Center Sponsors



## Gold Sponsors



## Title Sponsors



## Year-In-Review Data & Information Partners

