

PHILADELPHIA LIFE SCIENCES MARKET

2024 Life Sciences Report

Philadelphia Research Report

The Colliers logo is located in the bottom right corner of the page. It consists of the word "Colliers" in a white serif font, centered within a dark blue rounded rectangle. Below the rectangle are three horizontal stripes: a yellow stripe on top, a red stripe in the middle, and a blue stripe on the bottom.

Colliers

Year in Review

The promise of interest rate cuts, advancing science, and early January funding announcements generated optimism that there would be a rebound of Life Sciences leasing activity in Philadelphia at the start of 2024.

Despite this excitement, momentum slowed as the anticipated Fed rate cut did not come until the middle of September. There were some meaningful wins early in the year, most notably the extension of the 796,633 SF Dow lease in Collegeville in January and the \$172.5 Million capital raise by Larimar Therapeutics in February. While deal velocity slowed for much of the year, 3rd quarter saw transactions totaling 210,000 SF including Resolian, Legend Biotech, Franklin Biolabs, Wistar and Nucleus Radiopharma.

"While the capital markets activity has slowed, science has not."

The expansion of institutional R&D continues to fuel the Philadelphia Life Sciences cluster

and create demand for space as evidenced by the following institutional expansions:

- Penn's Institute for RNA Innovation and Center for Precision Engineering for Health in 115,000 SF at One uCity Square
- Wistar's 25,000 SF HIV Cure and Viral Diseases Center at 3675 Market Street
- CHOP's new 350,000 SF Morgan Center for Research and Innovation.

At the same time, three new purpose-built R&D lab buildings totaling 1.16 Million SF progressed towards completion in the Station District surrounding 30th Street. Capital constraints led to 150,000 SF of sublease availability in recent purpose-built lab space and older labs spaces in University City Science Center buildings.

The anticipated emergence of biomanufacturing in Philadelphia has slowed significantly because of more cautious capital. Anticipated biomanufacturing projects at the Lower Schuylkill Biotech Campus, Pennovation and the Bellwether District have been deferred as developers faced reluctance from investors and lenders.

Looking Ahead

The key question for stakeholders is how quickly the 1.75 MSF of current surplus purpose-built, conversion, incubator and sublease R&D space in the City of Philadelphia will be absorbed.

University City is expected to lead the region in vacancies as this new inventory of purpose-built lab buildings is delivered. Over the past 5 years regional annual absorption has ranged from a high of 1.3 MSF with several years registering an occupancy loss. Colliers projects 2025 lease commitments to range between 250,000 and 500,000 SF with 510,000 SF of anticipated absorption when the new purpose-built lab buildings deliver. Future lease commitments and absorption will depend on three key variables:

1. The volume, rate of creation and pace of advancement of new companies commercializing high promise therapeutics.
2. Acceleration of Series A & B investment in local companies driven by interest rate cuts, confidence in the long-term commercial success of advancing science and pressure on VC/PE firms to place investor funds or give it back.
3. New to market companies in and outside the US looking to capitalize on Philadelphia's lower cost to live and operate, strong talent pool and expertise in cell, gene and mRNA therapies.

The rate of absorption is expected to increase over the next 3 years as it did in 2019-2021, although at a more modest pace, suggesting that proposed projects that were sidelined in 2023 and 2024 may begin to reengage in the first half of 2026.

Philadelphia's Rising Recognition

Carl H. June
2024 Breakthrough Prize

For the development of chimeric antigen receptor T cell immunotherapy



Katalin Karikó & Drew Weissman
2023 Nobel Prize in Medicine

Vittoria Bio-therapeutics
2023 Enterprise Award for Life Sciences & Healthcare Startup

Biomeme
2023 Enterprise Award for Life Sciences & Healthcare Emerging

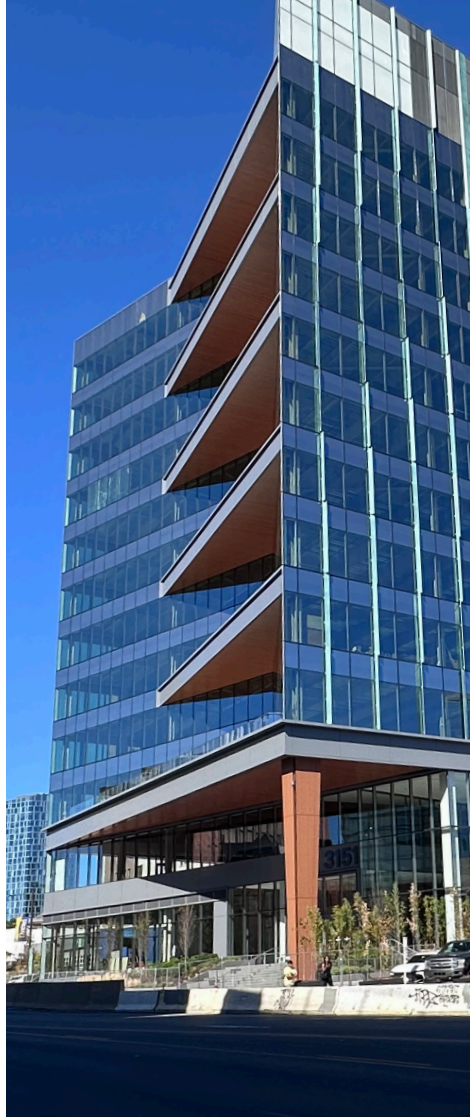
AscellaHealth
2023 Enterprise Award for Life Sciences & Healthcare Company

Expanding R&D

3 New Institutional Research Facilities
Totaling 490k SF

Pictured: Station District

Notable Projects 2024



**3151 Market
Schuylkill Yards**
441,000 SF | Q1 2025 Delivery
Brandywine Realty Trust

A 12-story purpose-built R&D lab and office building with maximum 39,000 SF floor plate, designed for up to 70% lab/30% office. Supported by 18,000 SF of retail and amenity space.



3201 Cuthbert Street
520,000 SF | Q2 2025 Delivery
Gattuso Development Partners

An 11-story purpose-built R&D lab, office and GMP building with 50,000 SF floor plates and floor to floor heights from 16-24 feet. Supported by ground floor retail and restaurant.



2300 Market Street
225,000 SF | Q2 2025 Delivery
Breakthrough Properties

An 8-story purpose-built R&D lab overbuild of existing historic buildings. Designed for 60% lab/40% office with 15'-17' floor to floor heights. Amenities include Studio Labs by Breakthrough, cafe, lounge and fitness center.



**Morgan Center for Research
and Innovation**
350,000 SF | 2025 Delivery

Opening in 2025, the 17-story, 350,000 SF facility will expand CHOP's capacity for biomedical, molecular and computational research to accelerate the pace of discovery of new cures for childhood diseases.



**Spark Therapeutics' Gene
Therapy Innovation Center**
414,390 SF | 2026 Delivery

Spark's new 6-story, 414,390 SF Innovation Center doubles its footprint in Philadelphia. The new cGMP facility with R&D labs and administrative office will serve as Roche's global center of excellence for gene therapy.



Urban Opportunities

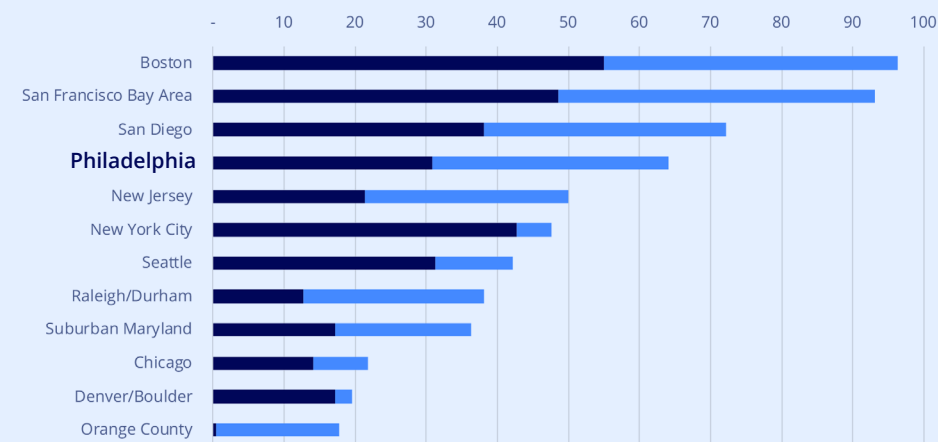


- 1 **The Curtis**
601 Walnut St, Philadelphia, PA
- 2 **Race Street Labs**
1417-1435 Race St, Philadelphia, PA
- 3 **401 N Broad Street**
Philadelphia, PA
- 4 **2300 Market Street**
Philadelphia, PA
- 5 **Cira Centre North**
2929 Arch St, Philadelphia, PA
- 6 **3151 Market Street**
Philadelphia, PA
- 7 **3624 Market Street**
Philadelphia, PA
- 8 **3675 Market Street**
Philadelphia, PA
- 9 **3701 Market Street**
Philadelphia, PA
- 10 **3711 Market Street**
Philadelphia, PA
- 11 **One uCity**
225 N 38th St, Philadelphia, PA
- 12 **3.0 University Place**
4101 Market St, Philadelphia, PA
- 13 **Pennovation Lab**
3401 Grays Ferry Ave, Philadelphia, PA
- 14 **1201 Normandy Place**
Philadelphia, PA
- 15 **2500 League Island Boulevard**
Philadelphia, PA
- 16 **Budd Innovation Center**
2450 W Hunting Park Ave, Philadelphia, PA



National Rank

The Philadelphia life sciences market stacked up strong in Colliers U.S. Life Sciences Report for 2024 highlighting our region's lead in gene, cell, and mRNA research and resilient pipeline compared to the national market. Financial indicators suggest potential for a leasing recovery, and optimism for future growth in life sciences.

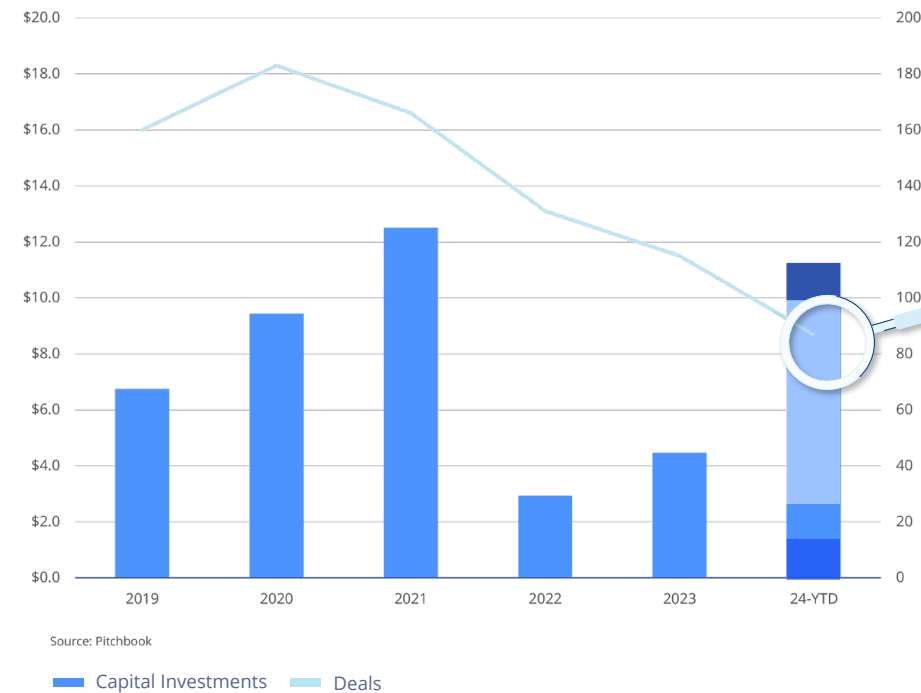


Source: Colliers Life Science Report 2024

Philadelphia ranks #4 in Life Sciences metrics when stacked up against the other Life Sciences clusters in the United States.

Philadelphia Market Funding

Capital Investment Overview 2019-2024

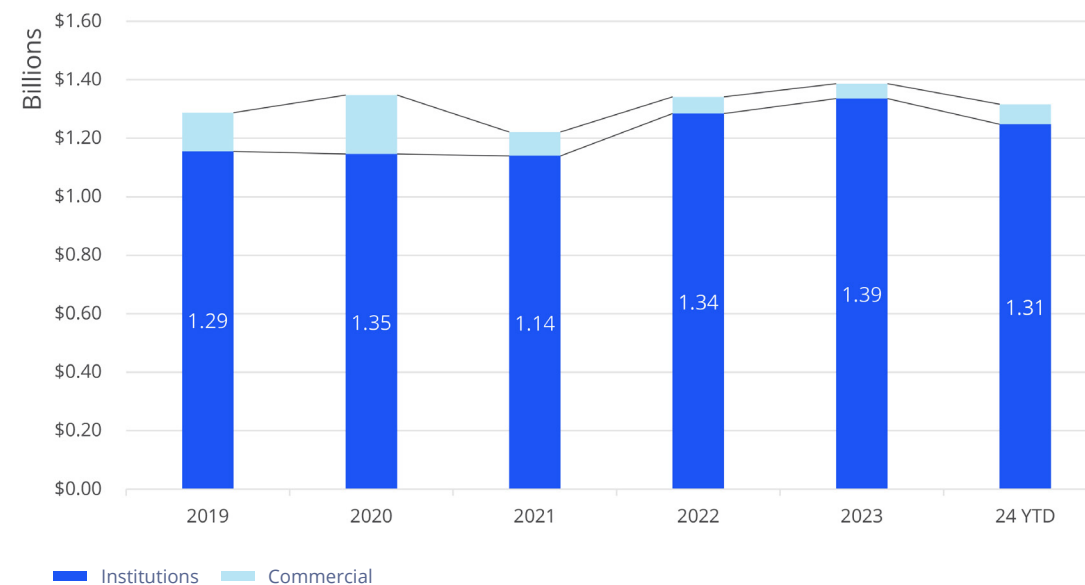


Source: Pitchbook

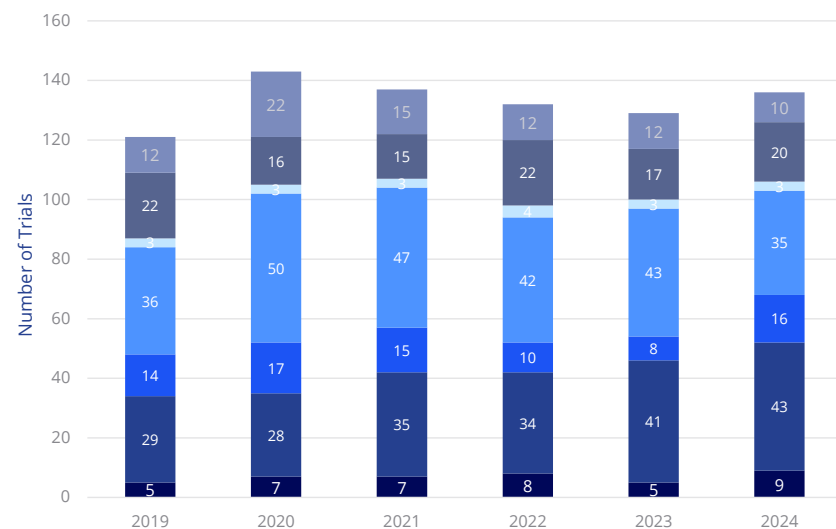
Capital Investment Breakdown 2024



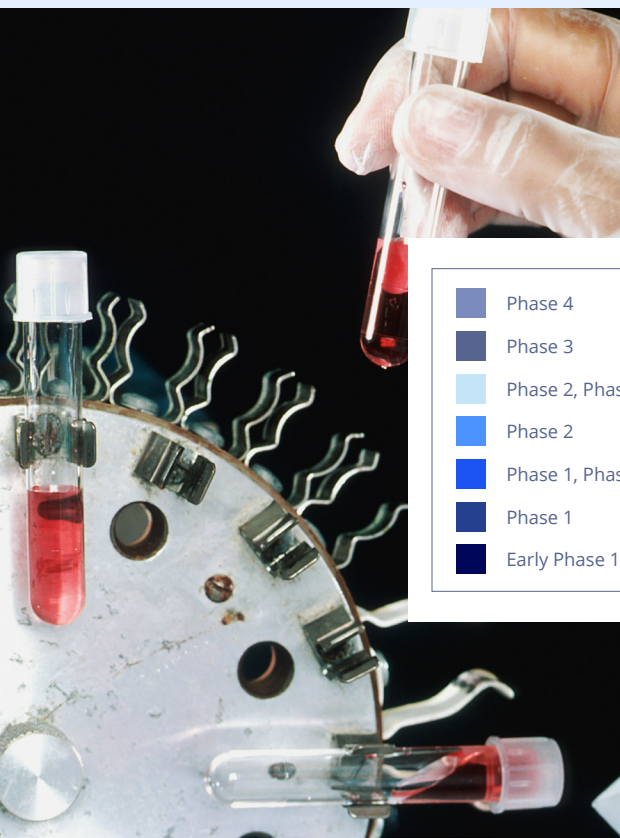
National Institute of Health (NIH) Funding 2019-2024



Regional Clinical Trials 2019-2024



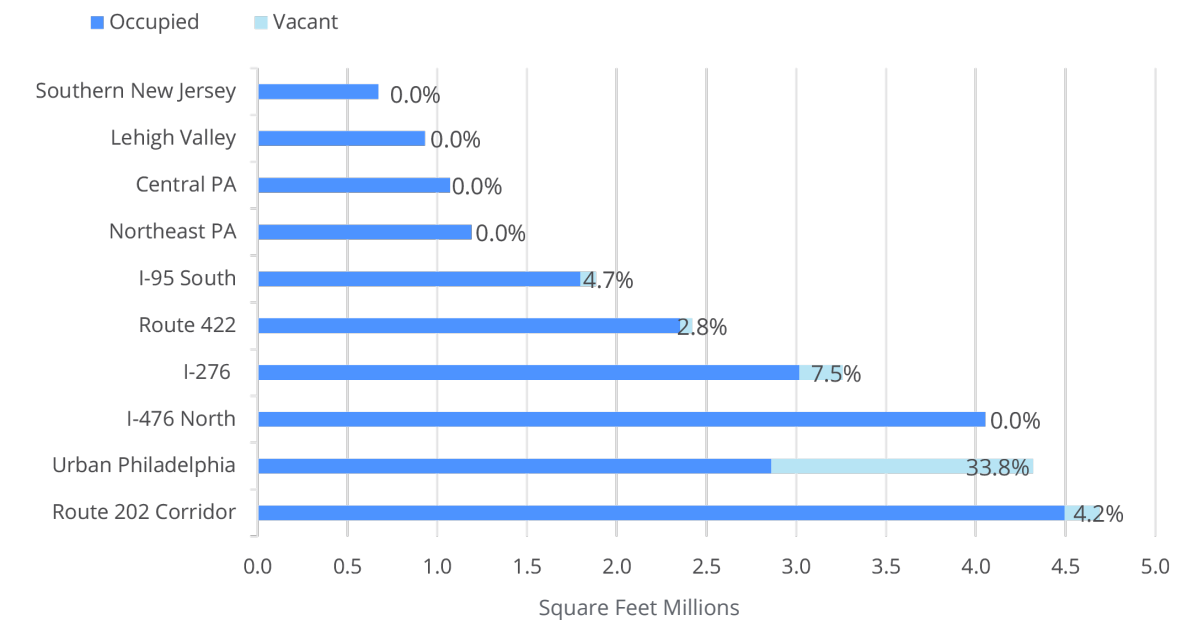
Source: Pitchbook-Count of Philadelphia CSA-based (Philadelphia-Reading-Camden and Harrisburg-York-Lebanon) companies with interventional clinical trials, by phase excluding the N/A category





Real Estate Market Metrics

Submarket Size and Vacancy

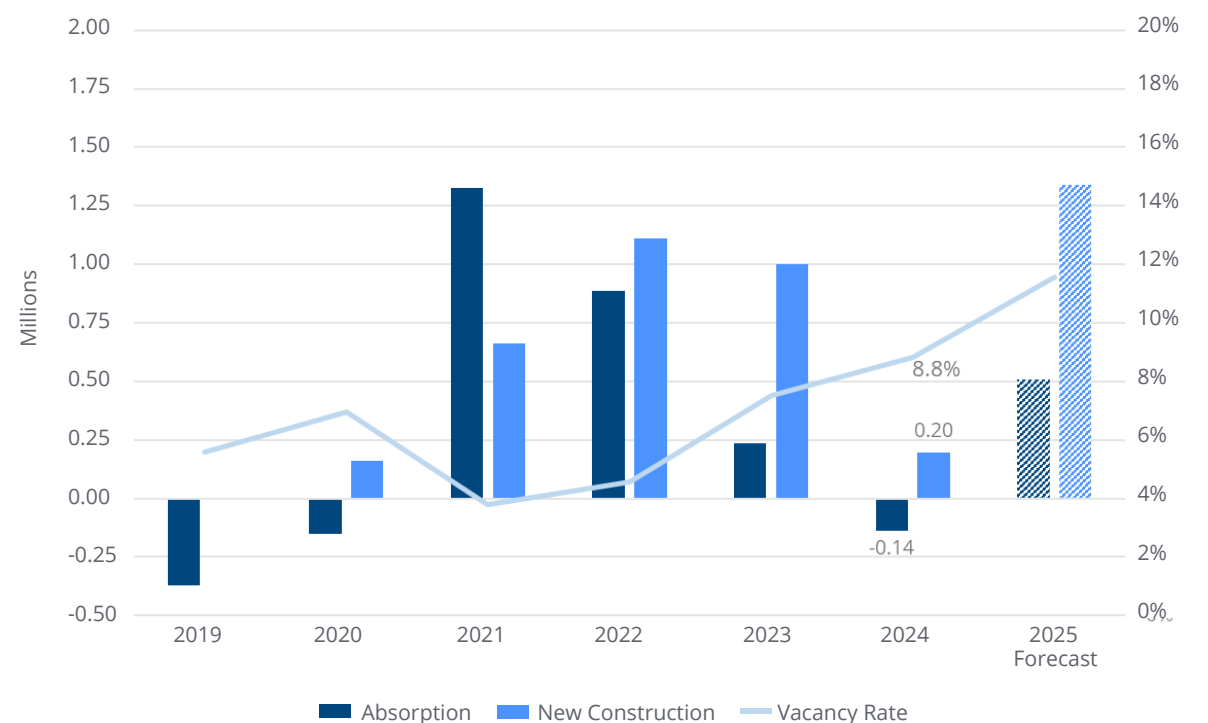


Recent Transactions

Company	Location	SF	Type
Dow	400 Arcola Road Collegeville, PA	796,633	Renewal
Franklin Biolabs	Innovation 411 King of Prussia, PA	72,226	Sublease
DSM	400 Devon Park Drive Wayne, PA	77,065	New
Nucleus RadioPharma	Spring House Innovation Park Ambler, PA	48,164	New
Resolian	17 Lee Boulevard Malvern, PA	36,800	Renewal
Legend Biotech	2300 Market Street Philadelphia, PA	28,600	New
Wistar	2300 Market Street Philadelphia, PA	25,000	New



Philadelphia Life Sciences Market 2019-2024



Key Factors Shaping the 2-3 Year Horizon

As we look ahead to 2025 and beyond, Colliers is following seven factors that will have meaningful impact on the growth of the Philadelphia Life Sciences cluster, the absorption of existing life sciences real estate inventory and the future development of new purpose-built product:

- 1 Election 2024
- 2 Capital Markets
- 3 Changing Development & Investment Model
- 4 Innovation in Advanced Therapeutics
- 5 Adoption of AI in R&D
- 6 Accelerators/Incubators
- 7 Manufacturing/CDMO

Election 2024

The September interest rate cut provided a temporary boost in investment momentum, which has since moderated due to ongoing uncertainty in the election, economy, and capital markets.

The outcome of the election and signals from the incoming administration furthered that uncertainty with the suggestion of transformative changes to the operating divisions of the Department of Health and Human Services (HHS). Early stated objectives indicate there will be operational and policy changes at the NIH, FDA, Centers for Medicare & Medicaid Services (CMS) and more broadly, the health insurance industry at large.

Changes to funding, staffing, regulatory environment and medical reimbursement policies will impact the pace of discovery, investment and growth in the Philadelphia Life Sciences sector. As a major eds and meds city receiving \$1.31B in NIH funding this year, Philadelphia is vulnerable to changes to HHS policy.

The stated focus on increased transparency and efficiency in HHS, with a focus on chronic disease prevention, prioritizes the common overall goal of quality health and longevity of Americans.



Capital Markets

Venture Capital, Private Equity and the public markets have maintained a cautious outlook on Life Sciences investment.

While 2024 numbers for Philadelphia have improved markedly, \$4.21B YTD as compared with \$3.40B for the full year in 2023, there are several key indicators to watch that will determine future investment patterns in Philadelphia Life Sciences companies.

- Further interest rate cuts following the November 7 cut of 25-basis points, as the current risk/return profile is limiting investors to consider only the most promising therapeutics. The Fed is signaling another 25-basis point rate cut before the end of 2024.
- Significant capital in existing funds that has not been deployed (dry powder) will need to be put to work in the next 6 to 12 months or will be returned to investors.
- The return of funds to investors or investment in underperforming companies will create challenges as PE/VC firms look to raise new funds in 2026 and beyond.
- Expanding the pool of entrepreneurs and C-level leaders to lead and grow emerging companies more quickly and successfully.

Changing Development & Investment Model

With VCs increasingly selective about the stage and quality of the science, experience of the entrepreneurial management team and the ability to exit profitably, founder scientists are developing their work further in the institutional research lab, leveraging NIH grants and institutional funds before launching and approaching the investment community. Early-stage companies are de-risking their scientific discovery and leveraging non-dilutive funds to better prepare for their first capital raise. The trend toward larger Series A investments in more advanced, quality companies will be the future of VC and PE investments in early-stage drug development, even if this means fewer overall investments.

Innovation in Advanced Therapeutics

As discovery and commercialization of Advanced Therapeutic Modalities, including Cell and Gene Therapy (CGT), mRNA and CRISPR progresses, we can anticipate advancements that will improve performance and increase adoption of these therapies. Specific areas where these advancements will most impact patient outcomes and affect the rate of creation and growth of companies include:

- Expansion of applications from orphan/rare diseases to more widely occurring diseases
- Increased utilization of AI in discovery, testing and trials and repurposing and identifying alternative applications for existing and unproven therapeutics
- Ability to better control undesirable side effects and control long-term efficacy of the therapies
- Reductions in the cost of delivery to ensure insurance coverage and availability to the general population

CASE POINT

A recent example of such advancement is the first in-human trial of an in vivo CAR candidate for treatment of B-cell malignancies. Interius Bio is advancing the work of Saar Gil, a principal investigator at University of Pennsylvania and founder of Interius Bio.

The benefit of Interius's in vivo CAR therapy is that the treatment can work faster and at a fraction of the cost of ex vivo CAR T therapies, like Kymriah, the first FDA approved CAR T therapy which was developed by Carl June and his team at University of Pennsylvania and licensed to Novartis.

Adoption of AI in R&D

AI will accelerate drug discovery and development with its analytical and predictive capabilities, potentially saving significant time in validating or rejecting hypotheses generated from data collected from real time assays in the lab or from massive data compiled from prior related research. By doing so, researchers can focus on the most viable molecules for a desired outcome and also validate potential new applications for existing therapeutics.

AI can also enable the design and execution of more efficient, successful and less costly clinical trials, expediting the pathway from discovery to patient. Specific applications of AI to improve the clinical trial process are:

Trial Design

Machine learning algorithms can optimize trial designs by predicting outcomes based on previous data, helping researchers select the most promising methodologies and endpoints.

Patient Recruitment

AI can analyze electronic health records and other data sources to identify suitable candidates for trials more efficiently, reducing time and costs associated with recruitment.

Monitoring and Compliance

AI can enhance real-time monitoring of trial data, flagging anomalies or compliance issues promptly. This can lead to quicker adjustments in protocols if needed.

Data Analysis

AI can handle vast amounts of data more efficiently than traditional methods, identifying patterns and insights that may not be immediately apparent, thus accelerating the analysis phase.

Predictive Analytics

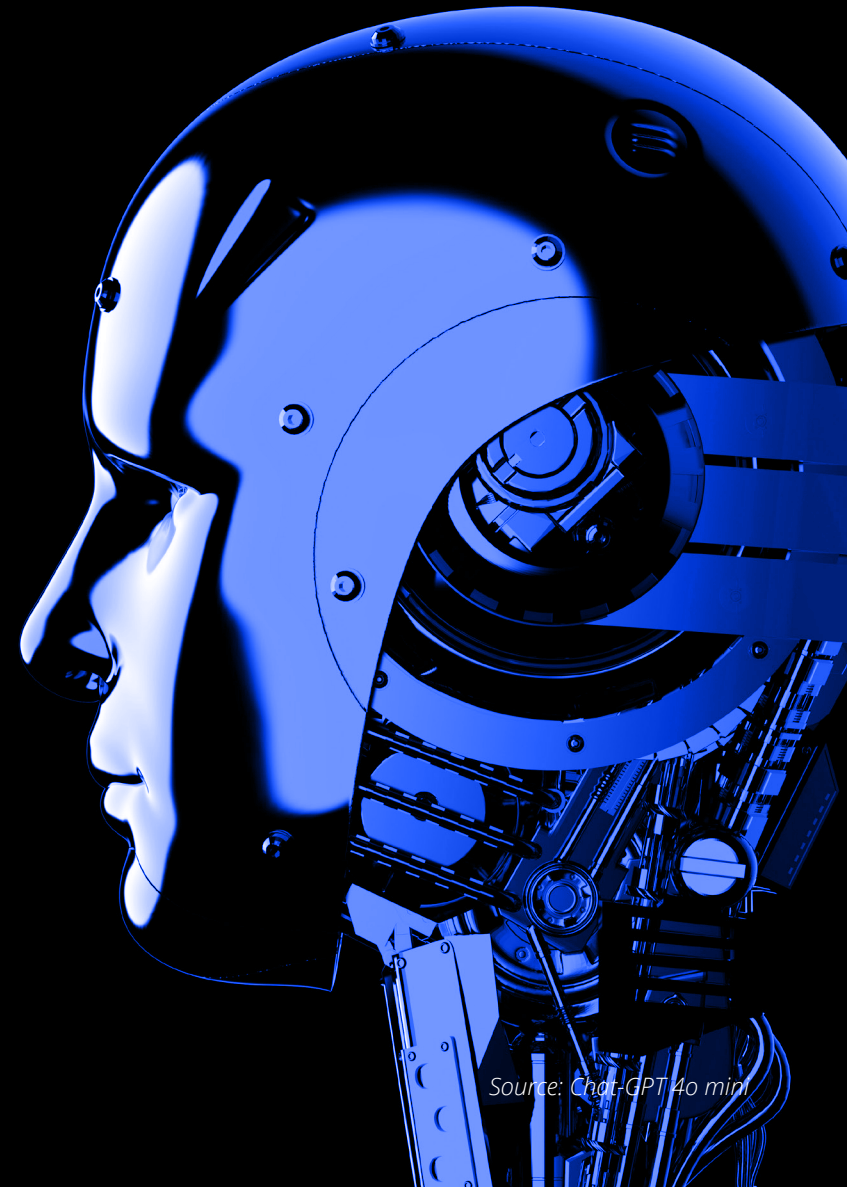
By leveraging historical data, AI can help predict patient responses to treatments, potentially leading to more personalized approaches in clinical trials.

Cost Efficiency

Overall, the use of AI can reduce costs associated with trials by streamlining processes, minimizing patient dropout rates, and improving operational efficiency.

Regulatory Insights

AI tools can assist in navigating the regulatory landscape by analyzing past FDA approvals and trends, helping researchers align with FDA expectations.



Source: Chat-GPT 4o mini

Incubators/Accelerators

Although there is excess capacity of bench and private lab space in Philadelphia's incubator facilities today, resulting from the tripling of incubator space over the past 2-1/2 years, Philadelphia's incubators will continue to play an essential role in the advancement of growing companies in the cluster. In addition to current operations at Pennovation, CIC, B+Labs, BioLabs and PABC, there is additional capacity in the works with expansions of 120 benches in private suites at B+Labs, 125 benches in graduate suites at BioLabs, 120 benches with the launch of Studio Labs at 2300 Market Street and additional benches in the SmartLabs facility at 3201 Cuthbert Street.

These incubators will continue to provide full-service lab facilities for some of Philadelphia's largest growing companies at a time when it is

more cost effective to operate in these facilities than build and staff a lab in leased space. However, there is pressure on incubator operators to offer more affordable solutions for start-ups who do not have the capital on hand for monthly bench costs of \$3,000-\$3,500/bench/mo.

Two new contract vivarium labs totaling 10,000 cages opened in University City. The operators, CRADL and Mispro provide outsourced facilities and technical and compliance services for pre-clinical research, enabling companies to conduct their own early-stage in vivo studies on accelerated timelines.

912

Total benches

263

Available benches

401

Bench expansion

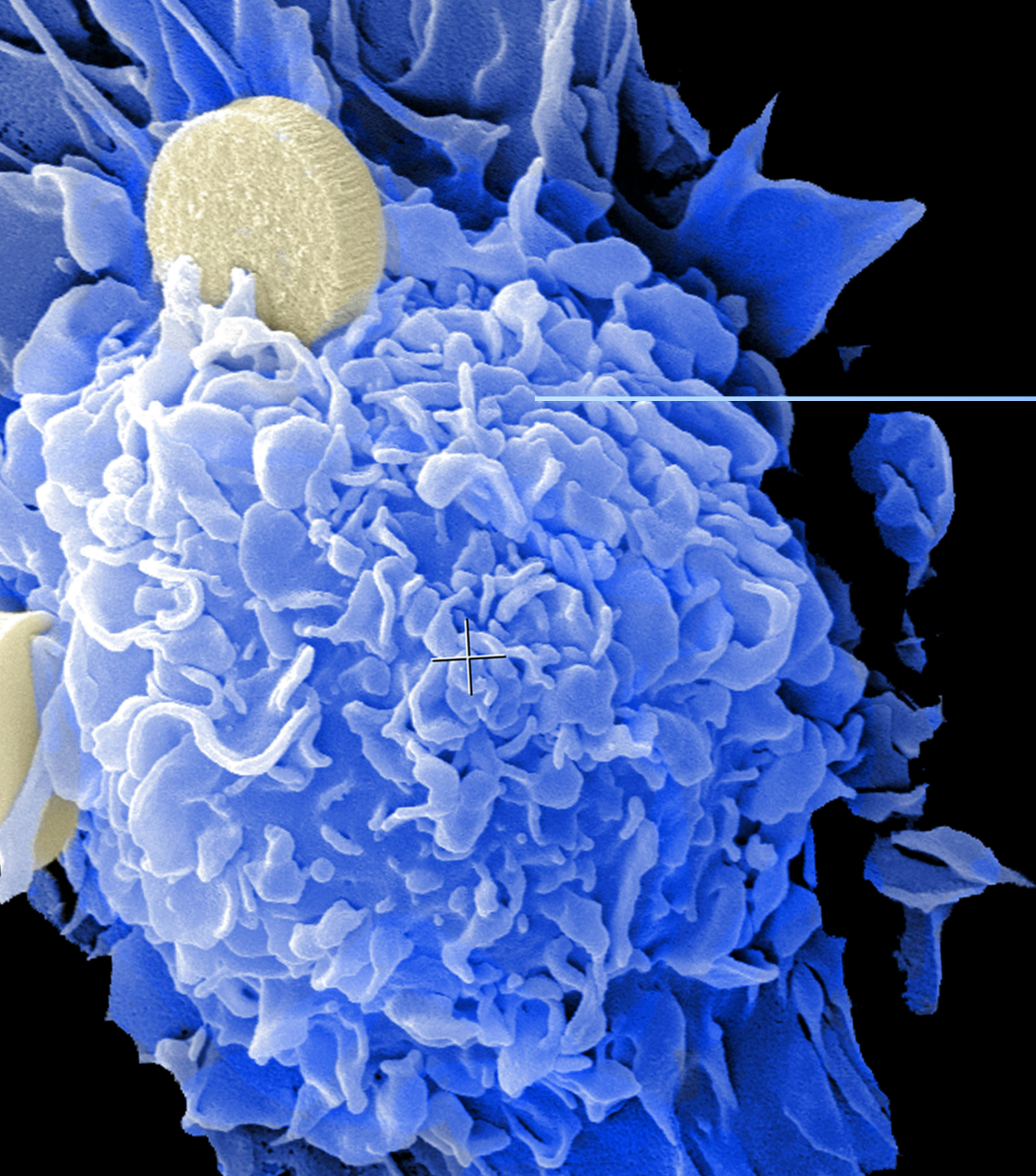
Manufacturing/CDMO

While development of biomanufacturing in Philadelphia has not advanced as anticipated, there are multiple factors that will make this an important segment to watch in 2025 and beyond. Construction is progressing on Spark's 414,930 SF Gene Therapy Innovation Center which will deliver in 2026. This facility will serve as Roche's Center of Excellence for Gene Therapy Manufacturing.

In response to the BIOSECURE Act, which passed the House overwhelmingly and is awaiting action from the Senate, WuXi App Tec has put its Advanced Therapies manufacturing unit up for sale, most notably its four facilities at the Navy Yard. This move will impact biomanufacturing capacity in Philadelphia, depending on the outcome of the sale, by building or the entirety.

This uncertainty, coupled with the restrictions that would be imposed by the BIOSECURE Act, will impact clinical production decisions for many local companies. The sale of these buildings could create opportunity for a new CDMO or biomanufacturing facility for a therapeutics company in Philadelphia.

There is disruption in the biomanufacturing sector in the US and globally with the sale of Catalent to Novo Holdings and Pfizer's announced plans to reduce their global manufacturing portfolio by selling 8 manufacturing facilities and reducing operations at 6 additional facilities. There is also a mismatch of supply and demand with too much vaccine and solid dose capacity and inadequate capacity for emerging cell and gene therapies.



Opportunity Post Uncertainty

Philadelphia has chance to move past cautious to confident this year, here's what we're watching.

Company Creation and Fundings

While 2024 saw a slight dip in company creation and financing events, the quality and quantity of research within local institutions remains strong. Increased collaboration and a promising pipeline suggest a surge in company formation and larger funding rounds in 2025, driving demand for lab space.

Accelerating Out of Market Demand

The Philadelphia region's unique blend of factors—access to top talent, lower costs, and attractive neighborhoods—drew companies like Nucleus Radiopharma and Legend Biotech to the cluster in 2024. Increased focus of such out of market companies on the resources in Philadelphia will create growing demand for lab, and ultimately, manufacturing space.

Dynamic Supply Story

While the 1.34 MSF of new supply in 2025 is the main story, sublease and previous generation space may expand supply of lab and manufacturing space. At the same time, the push for onshoring of advanced and cGMP manufacturing, which has not yet benefited the region, could quickly fill limited flex industrial and cGMP inventory.



Joseph Fetterman

Executive Vice President

+1 215 928 7541

joseph.fetterman@colliers.com

Rose Penny

Market Research Director

+1 215 928 7505

rose.penny@colliers.com

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