



HEPATITIS B FOUNDATION | Baruch's BLUMBERG INSTITUTE | PENNSYLVANIA BIOTECHNOLOGY CENTER
TIMOTHY M. BLOCK RESEARCH CAMPUS

PENNSYLVANIA
BIOTECHNOLOGY CENTER
**ECONOMIC
IMPACT**
2022 - 2024

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EXECUTIVE SUMMARY

The **Pennsylvania Biotechnology Center** (PABC) is a nonprofit life sciences incubator dedicated to the creation of a world-class biotechnology center, to the promotion of regional economic development and job creation, and to the education and training of tomorrow's researchers.

The **PABC** and **B+labs at Cira Centre**, which are managed by the **Baruch S. Blumberg Institute**, serve as major drivers of biotechnology innovation and economic growth in the Commonwealth of Pennsylvania.

A three year economic analysis of activity from **2022-2024** demonstrates substantial regional impact generated by the incubators. During this period, the **PABC** generated approximately **\$5.26 billion** in total economic output and supported an estimated **596 jobs**, while **B+labs** generated **\$2.36 billion** in total economic output and supported **565 jobs**. Combined, the incubators produced approximately **\$6.4 billion in total economic output** and supported **954 jobs**.^[1]

Earlier economic assessments further illustrate the long-term impact of the incubator system. Companies graduating from the PABC have achieved approximately **\$1.75 billion in combined peak valuation**, placing PABC in the **top 3 in the U.S.** Impact Index of the International Business Innovation Association. Member companies have also completed **eight IPOs** resulting in an increase of **\$3 billion in value** and secured more than **\$500 million** in research and development funding through grants and investments.

The PABC has created a thriving biotechnology ecosystem that accelerates scientific discovery, supports company formation, and contributes significantly to regional economic development.



Louis P. Kassa III, MPA

CEO, Pennsylvania Biotechnology Center

Louis P. Kassa III, MPA, is CEO of the Pennsylvania Biotechnology Center (PABC), Baruch S. Blumberg Institute and Hepatitis B Foundation, which he joined as EVP and COO in 2014. Kassa leads the PABC, home to the Hepatitis B Foundation and Baruch S. Blumberg Institute. He previously was State Director and COO at VisionQuest National Ltd., a national behavioral health company. For the fourth year in a row, Kassa is on the Philadelphia Business Journal's "2026 Power 100" list of the region's most influential business leaders. Kassa obtained a bachelor's at Penn State and an MPA at Villanova.

^[1] Combined estimates were adjusted to avoid double counting from spillover (e.g., shared vendors, vendors commuting labor).

INTRODUCTION

Biotechnology business and innovation centers create powerful synergies that increase the opportunity for accelerated economic growth. Leading biotechnology hubs in the United States, such as Research Triangle Park in North Carolina, South San Francisco and Kendall Square in Boston, demonstrate the economic benefits of attracting technology, talent, and capital into concentrated geographies, to spur new discovery, business formation, technology transfer and commercialization. The Pennsylvania Biotechnology Center (PABC) operates within this same model, fostering innovation and economic growth through collaborative research environments and business incubation.

20+

Years of operations

2+

Incubators

100+

Member companies

280+

Jobs created





THE PENNSYLVANIA BIOTECHNOLOGY CENTER

The Baruch S. Blumberg Institute, which was launched by the Hepatitis B Foundation in 2003, opened the **PABC** in 2006 with the generous support of the Commonwealth of Pennsylvania and assistance from Ben Franklin Technology Partners of Southeastern Pennsylvania. Strategically situated in Doylestown, the county seat of Bucks County, the PABC is in the heart of the Pharma Belt, and nearly **equidistant** to major pharmaceutical, academic and research institutions in Philadelphia and Princeton.

Since its founding, PABC has grown significantly. A new two-story office and laboratory building opened in spring 2022 and increased the 10-acre campus to four interconnected buildings with more than 150,000 square feet of usable office, lab and multipurpose facilities.



Gov. Josh Shapiro (center) and Rep. Tim Brennan (left) hear from Lou Kassa, CEO of the PABC (right), during a tour of the PABC facility in 2023.

B+labs at Cira Centre

Also in 2022, the Blumberg Institute further expanded its incubator model through a partnership with Brandywine Realty Trust, launching **B+labs at Cira Centre** in University City, Philadelphia. Cira Centre is a landmark in University City, home to top academic and medical institutions such as the University of Pennsylvania, Drexel University and Children's Hospital of Philadelphia. The original development of B+labs included 50,000 square feet of lab, office, and meeting space plus a 10,000 ft² event venue. Occupying three floors initially, B+labs now operates on four floors including a vivarium to support advanced biomedical research.

The Incubator Ecosystem

Together, **PABC** and **B+labs** currently host nearly **70 startup companies** with more than **400 scientists, staff and trainees** working within a collaborative knowledge community.

The incubators provide infrastructure and advisory support designed to accelerate company growth. Services include specialized laboratory space, collaboration and networking opportunities, deep expertise in cell and gene therapy (CGT) companies, opportunities to learn and work with some of the world's best CGT scientists, and access to a network of experienced C-suite advisors.

Companies within the incubators have produced numerous FDA-approved drugs and medical devices, completed eight IPOs, and attracted acquisitions by major pharmaceutical companies including AbbVie and Gilead/Kite. These companies have collectively generated more than **\$1.75 billion in combined valuations**.



The Blumberg Institute's strong impact on the region's economy has gained the support of area and state government leaders who recognize that PABC is a valuable, long-term economic engine by attracting highly skilled talent and high-wage jobs.

Continued Growth and Investment

State investment has played a critical role in supporting the growth of the incubator system. The Commonwealth recently renewed a \$5 million investment for the Center's Academic Innovation Zone program, which supports early-stage companies and university technologies at both incubator locations (Doylestown and Philadelphia).

The incubators continue to play an important role in the interface between sound academic science and the resulting business opportunities. Blumberg's prominent research endeavors have served as a catalyst for the recruitment of renowned research faculty, new business formation of both diagnostic and therapeutic companies, and the relocation of companies to one of the incubators. The strategic plan for the PABC and research affiliates remains to conduct translational research, spin-out technologies from that research, support biotechnology ventures that grow the economic base of Bucks and Philadelphia counties and provide jobs for a highly skilled and educated workforce.

ECONOMIC IMPACT ANALYSIS

This report evaluates the economic impact of the PABC and B+Labs on the Commonwealth's economy from 2022 to 2024.

Economic impact analysis allows examination of the effects of a specific event or events on a given (geographic) economy. Total economic impact includes the direct impact of spending, including research and development, investment, construction, and other expenditures over the period, by companies associated with the facility. In addition, the study examined indirect and induced effects that occurred as a result of economic activity (i.e., spending) by Center organizations rippling through the economy and generating spillover benefits to additional companies, as well as to the household sector. At every point, new spending occurs, and new jobs are created. That spending and those jobs continue to ripple through the economy for additional rounds of economic activity. Economic multipliers quantify the total impact within the Commonwealth of successive rounds of spending as a result of direct expenditures by organizations associated with the Center, as well as additional employment related to the new spending.

Indirect impacts refer to additional rounds of spending made by organizations and businesses with industry (supply chain) linkages to the Center. Initial spending by entities at the Center supports additional rounds of spending up and down the supply chain.

Induced effects refer to the increased household consumption of goods and services (e.g. housing, utilities and retail spending) throughout the economy.

The total economic impact from PABC and B+labs from 2022-2024 amounts to ~ \$6.4 billion for the Commonwealth of Pennsylvania.



Economic Output by Region

\$Billion	Bucks County/PABC	Phila. County/B+labs
Direct Impact	\$2.67	\$1.25
Indirect plus induced	\$2.59	\$1.10
Total Impact	\$5.26	\$2.36

Job Impact

From 2022-2024, PABC and B+labs supported **954 jobs** across the regional economy.

Combined estimates were adjusted to avoid double counting.

Summary of Study Results

Combined regional activity – for illustrative purposes only – totaled approximately **\$6.4 billion** in economic output and **954 jobs** supported.

Labor Impact by Region		
	Bucks County/PABC	Phila. County/B+labs
Direct Jobs	281	289
Indirect Jobs	315	276
Total Jobs	596	565

Future Vision & Impact

The vision in 2026 is the same as it was in 2016: Weave an even stronger knowledge community consisting of high-performing professionals that will be known in the region, and across Pennsylvania as a true accelerator of biotechnology growth.



Business Innovation

Helping Entrepreneurial companies grow and thrive



Connecting to Capital

Enhancing regional technology transfer capability and increasing availability of growth and capital



Community Building

Expanding Bucks County's Innovation Community



Education and Workforce Development

Building a pipeline of specialized knowledge workers with STEM industries



Infrastructure for Innovation

Providing the physical assets that allow Innovation clusters to flourish

METHODOLOGY

The economic impact analysis applied a standard input-output (I-O) economic framework based on the RIMS II modeling system produced by the US Bureau of Economic Analysis. Regional I-O multipliers are based on a detailed set of industry accounts that measure the goods and services produced by each industry and the use of these goods and services by industries and final users. This detail allows for estimates of the impact of an initial change in economic activity on industries in a region. I-O models do not account for price changes that may result from increased competition for scarce resources. I-O measures:

Direct effects: Economic activity generated directly by life sciences firms (investment, payroll and revenue; employment).

Indirect effects: Supply-chain activity generated as firms purchase goods and services.

Induced effects: Household spending supported by wages paid to employees.

Total economic impact is the sum of direct, indirect, and induced effects. Economic activity does not include fiscal or tax impacts.

Data sources included publicly available information from the U.S. Bureau of Economic Analysis, the U.S. Bureau of Labor Statistics, company sourcing, NIH records, EDGAR filings, and other sources. The analysis also used proprietary sources identified and collected by the PABC. AI was also used to conduct detailed reviews of publicly available financial records, extract relevant data, and summarize key findings. These tools were employed when necessary to model a company's financial position.

Note that to keep with the framework for prior versions of this analysis, calculations were conducted separately for Bucks County and for Philadelphia County. Indirect and induced effects may occur across county boundaries (spillover) as well as outside the region (leakage). Combining county totals risks double counting indirect and induced effects due to spillover. The combined totals shown in the Executive Summary are for illustrative purposes only. They do not equal the sums of the counties for indirect and induced impacts. Those combined estimates were adjusted to avoid double counting from spillover (e.g., shared vendors, vendors commuting labor), however they were not considered for comparison purposes elsewhere in this report.

Research and analysis was conducted by **KLIOS Consulting LLC, Richard Stein, Principal**. KLIOS is a management and economic consulting firm that works with public and private institutions on issues relating to innovation, growth and sustainable economic development.

SUCCESS STORIES



Aprea Therapeutics, a publicly traded clinical-stage biopharmaceutical company developing innovative therapies that exploit cancer-specific vulnerabilities while minimizing damage to healthy cells, announces Early Clinical Proof-Of-Concept in the Ongoing ACESOT-1051 Dose-Escalation Trial Evaluating WEE1 Inhibitor APR-1051, Including Partial Response Observed on First Scan. It is the first unconfirmed partial response (uPR) observed in a patient enrolled in its ongoing Phase 1 ACESOT-1051 dose-escalation study.



Capstan Therapeutics, Inc., located in B+Labs, a clinical-stage biotechnology company dedicated to advancing in vivo engineering of cells through RNA delivery using tLNPs, and AbbVie announced a definitive agreement under which AbbVie will acquire Capstan for a cash deal of \$2.12B. The acquisition including CPTX2309, a potential first-in-class in vivo tLNP anti-CD19 CAR-T therapy candidate, currently in Phase 1, in development for the treatment of B cell-mediated autoimmune diseases. Additionally, AbbVie will acquire Capstan's proprietary tLNP platform technology designed to deliver RNA payloads, such as mRNA, capable of engineering specific cell types in vivo.

DEBRA Research gGmbH last year invested in **Eliksa Therapeutics** to advance ELK-003, a biological eye drop for Epidermolysis Bullosa-Related Ocular Complications. DEBRA Research, a global non-profit organization dedicated to advancing research and drug development for those affected by Epidermolysis bullosa (EB), announced an impact investment in Eliksa Therapeutics, a biotechnology company headquartered at the PABC.



Evrys Bio, a biotechnology company focused on developing next-generation antivirals, has ongoing accumulation of \$50 million in cumulative government funding to advance its broad-spectrum antiviral platform. Evrys Bio's approach targets host-cell proteins known as sirtuins, aiming to strengthen the body's intrinsic defenses and potentially deliver treatments effective against entire families of viruses.



Sterotherapeutics LLC announced First Patient Dose in Phase 2 Clinical Trial Evaluating ST-002 for Cushing's Syndrome. Sterotherapeutics is a clinical-stage biopharmaceutical company focused on rare endocrine diseases. It recently announced that the first patient has been successfully dosed in its ongoing Phase 2 clinical trial evaluating ST-002 for the treatment of Cushing's Syndrome.



Hepion Pharmaceuticals of New Jersey licensed a novel circulating tumor RNA (ctRNA) biomarker assay from a Blumberg Institute startup company, Cirna Diagnostics, to aid early diagnosis and surveillance of hepatocellular carcinoma (HCC) in high-risk patients.

A photograph showing several students in white lab coats and blue gloves working in a laboratory. They are using pipettes to transfer liquid into small vials. The background shows laboratory equipment and shelves with various supplies.

ACADEMIC PROGRAMS

One of the shining jewels at the PABC is the **High School Partnership Program**, a selective, immersive experience for Central Bucks School District (CBSD) juniors and seniors who participate in research while completing advanced coursework. Through a unique and tremendously successful partnership between our organization and CBSD, students take accelerated Advanced Placement Chemistry while working alongside scientists in a professional research laboratory environment.

Graduates of the program have gone on to attend highly selective universities including Princeton, the University of Pennsylvania, Brown, Cornell, Duke, Georgia Tech, UNC Chapel Hill, Penn State's Schreyer Honors College and the United States Military Academy at West Point. Students receive substantial scholarship support, totaling millions of dollars in offers. Students regularly present their work in major competitions such as the Regeneron International Science and Engineering Fair (ISEF), Regeneron Science Talent Search (STS) and the Pennsylvania Junior Academy of Science (PJAS).

Students receive hands-on training in laboratory techniques, scientific writing and data analysis while conducting independent, year-long or multi-year research projects on topics such as cancer, virology and rare diseases.

TWO WEEK HIGH SCHOOL PROGRAM

The Hepatitis B Foundation's **High School Science Enrichment Program** introduces high school students to the scientific thought process through hands-on experimental design and molecular biology techniques. The program also features a seminar series with guest speakers from diverse scientific fields, exposing students to potential careers in life sciences and public health. Students have come from Council Rock, New Hope Solebury, North Penn, Palisades, Pennridge, William Tennant and Central Bucks School Districts.

10-WEEK COLLEGE PROGRAM

The Blumberg Institute conducts a **10-Week College Internship Program** each summer. This program is highly competitive. Students come from schools such as Carnegie Mellon, University of Pittsburgh, Penn State, the University of Pennsylvania, Rutgers and many more. Member companies from the PABC also host interns of their own who can participate in activities at the center. The students work alongside faculty and company researchers in state-of-the-art laboratories.

ACADEMIC INNOVATION ZONE

Through a program aimed at accelerating and supporting life sciences startups in our state, the Pennsylvania Biotechnology Center (PABC) provides financial support and free lab space to more than a dozen startups at the PABC in Doylestown, its B+labs incubator in Philadelphia.

The PABC's initiative, the Academic Innovation Zone, which was launched in 2024, is managing \$5 million through the Commonwealth of Pennsylvania.

The goal of the Academic Innovation Zone is to support early stage life science companies and academic technologies, while attracting companies to Pennsylvania and creating more high-quality jobs. Over the last two years, this initiative has helped companies relocate to Pennsylvania from New York City, Delaware, Utah and Toronto. Three companies already at the PABC in Doylestown: Aprea Therapeutics Inc., Evrys Bio LLC and Incite Health, are using the funds to expand their footprints as they prepare for clinical trials.

Additionally, significant funds have been allocated for new company creation at B+labs in Philadelphia.

The PABC has a strategic partnership with the Wistar Institute and companies at PABC incubators are commercializing technologies from the University of Pennsylvania, Childrens Hospital of Philadelphia, Princeton University, the University of Utah and other institutions.

The **companies** that have received PABC Academic Innovation Zone support are:

- Able Sciences, Inc.
- BioLattice Ophthalmics, Inc.
- Ealden Lab, LLC
- Eliska Therapeutics
- Evrys Bio
- Merlin Biotech
- Nucleate Regional Hub
- Synergy Therapeutics
- TYSPAR LLC
- Young Therapeutics
- Aprea Therapeutics
- dba mHeart
- Eldari Bio LLC
- Endless BioPolymers Inc.
- Incite Health
- Nous Biosciences
- Serna Bio
- Trevarx Biomedical, Inc.
- Virion Therapeutics

CONCLUSION

Over the study period, PABC-related life sciences activity generated billions of dollars in economic output, reflecting the strength and growth of the region's innovation ecosystem. This economic impact stems from a combination of factors, including research activity, public and private investment, expanding payrolls, and increased operating revenue across life sciences organizations. The sector is also characterized by highly skilled, high-wage employment, particularly in areas such as research, development, and commercial operations.

The economic benefits extend beyond the organizations directly involved in life sciences. Both Bucks County and Philadelphia County demonstrate strong supply chain and labor linkages, meaning that spending within the sector circulates throughout the broader regional economy. In each county, every dollar of direct spending generates meaningful indirect and induced economic activity, supporting additional businesses, jobs, and services.

At the center of this activity, PABC continues to play a vital role in the region's innovation landscape. By translating scientific discovery into commercial applications, attracting private investment, and supporting a diverse range of employment opportunities, PABC helps strengthen Pennsylvania's life sciences economy and sustain its long-term growth.





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