

Christopher P. Molineaux, Life Sciences Pennsylvania
Testimony – April 11, 2024
Senate Republican Policy Committee Hearing on Innovation and Emerging Technologies

Chair Laughlin and Members of the Senate Policy Committee:

Thank you for the opportunity to provide written testimony for the April 11 hearing on innovation and emerging technologies in the commonwealth.

Life Sciences Pennsylvania is the statewide trade association representing more than 900 member organizations in the Commonwealth's life sciences ecosystem. Those members are comprised of small biotech companies, large pharmaceutical manufacturers, academic research institutions, medical device and diagnostics makers, patient advocacy organizations, and myriad service providers related to the development of groundbreaking therapies and cures.

Life Sciences PA was honored to speak at the hearing in September last year, along with several of our member organizations. We are pleased several of our members including – XyloCor Therapeutics, Adare Pharma Solutions, Iovance Biotherapeutics, the University of Pennsylvania, Jefferson Institute for Bioprocessing, Rockland Immunochemicals, Montgomery County Community College, Ben Franklin Technology Partners of Southeastern Pennsylvania and the PA Biotech Center of Bucks County – will be participating in today's hearing.

These member organizations comprise a strong cross-section of the life sciences establishments that make up the robust life sciences ecosystem in southeastern Pennsylvania. While we are a statewide association, the Southeast region is home to a significant number of our member organizations that play an important role in the Commonwealth's innovation economy.

There is no better example of this leadership than in the cell and gene therapy sector, where Philadelphia is a national and global leader. The region is home to the first FDA-approved gene therapy for genetic diseases and the first FDA-approved cell therapy. The academic research institutions in the region bring in more than \$1.3 billion in National Institutes of Health (NIH) funding and the area is home to more than 60 cell and gene therapy companies. This sector of the life sciences also attracted \$2.6 billion in venture capital funding from 2020-2021 and was ranked the second (behind Boston) Cell and Gene Therapy Hub in comparison to fourteen other regions in the United States.

This sector is not only an economic driver, but more importantly, is researching, developing, and manufacturing novel medicines and technologies for millions of patients around the world facing thousands of unmet medical needs.

The same can be said for life sciences entities throughout Pennsylvania. The Commonwealth has more than 3,000 life sciences establishments in total.

Those organizations – academia, manufacturers, and R&D intensive companies – makeup a robust ecosystem that directly employs more than 102,000 individuals, which represents a more than 50% increase from 2015.

This ecosystem accounts for more than \$61 billion in direct annual economic impact in the Commonwealth. In addition to the economic output, the industry is also responsible for \$18.4 billion in wages and salaries and \$4.9 billion in federal, state, and local tax revenue. Additionally, there is a significant multiplier effect of approximately three to four times for all the impact numbers.

These numbers are all important, but perhaps the most important is that of the 3,000 life sciences establishments, approximately 67% of them are organizations with fewer than 10 employees. While the statistics above paint a positive picture of the state's life sciences economy, it is critical that policymakers know this is largely a start-up community. With that start-up community comes significant hope and positivity as these companies work to develop medicines and technologies for unmet medical needs throughout the world. However, this is also a very fragile community.

The likelihood of success in the life sciences (particularly the biopharmaceutical sector) industry is low – almost 90 percent of the new drug applications filed with the FDA fail to receive approval.

Human biology remains very complicated. Even as we have seen significant strides made in curing disease – Hepatitis C therapies have cure rates above 90%, the U.S. death rate for HIV & AIDS has fallen nearly 85% and cancer death rates in the U.S. have fallen 23% - we know there are patients around the world waiting on the efforts of Pennsylvania companies and the researchers and scientists they employ.

However, science is incremental, and many companies will work tirelessly for the better part of a decade only to find they must start all over again – and all the resources they just poured into their work are sunk costs. Even with those odds, the United States, thanks to its scientific leadership, dogged persistence and (perhaps most important) its free-market system, is the undisputed leader in innovation, producing 57% of all new medicines in the world.

Those statistics are one of the reasons why these hearings are so important – policies put forth by government at the state (and federal) level have a significant affect on life sciences company growth and how those companies can attract investment. Because of the long timelines and resource-intensive nature of taking a medicine or technology through the clinical trial process, investors often look to alternative, “safer” investment options with quicker rates of return. Given today's challenging capital markets, concerns around components of the *Inflation Reduction Act*, and other economic uncertainties, many of our start-up CEOs face difficult financial and talent decisions.

For those reasons, we believe state government intervention is and can be a real catalyst for success. Life Sciences PA is supportive of several existing programs such as the Life Sciences Greenhouses, R&D Tax Credit, Qualified Manufacturing Innovation and Reinvestment Deduction (QMIRD), and lowering of the Corporate Net Income Tax. These are all necessary for innovative sectors like ours to thrive.

However, you can make the case that Pennsylvania's life sciences ecosystem is thriving despite limited government assistance, not because of it. That can be good as it insulates the industry from ebbs and flows that come with political change, but there is room for the government to do more to bolster our innovation economy – especially in the life sciences – policies that invest in talent and leadership, remove physical and financial barriers to equipment, facilities and space – and generally de-risk – early-stage companies, and market the ecosystem to stakeholders outside the Commonwealth are all important things to consider.

Pennsylvania's life sciences ecosystem is thriving as evident by the following statistics:

- The Commonwealth is home to world-class research institutions that attract billions in federal funding – more than \$2 billion in NIH funding (and \$32.9 million in NSF funding for 2021) – for basic scientific research. In fact, the University of Pittsburgh and University of Pennsylvania were two of the top-five NIH grant recipients in 2022.
- Additionally, those institutions and others in PA, awarded 2.9 million degrees (bachelor's or higher) in the life sciences disciplines in 2020. PA institutions also awarded 559 doctoral degrees in the life sciences discipline. Those numbers rank third and fourth, respectively, when compared to peer states.
- Beyond our academic leadership, Pennsylvania has a long legacy of pharmaceutical manufacturing and is home to a significant physical footprint of many of the world's leading biopharmaceutical and medical technology companies – Merck, Johnson & Johnson, GlaxoSmithKline, Spark Therapeutics, Bayer, and Smith & Nephew, among many others.
- Finally, our academic or teaching hospitals and health systems, and their proximity to these companies and researchers, make Pennsylvania home to approximately 1,200 ongoing clinical trials – placing the Commonwealth 4th for clinical trial activity.

All these statistics rank Pennsylvania among the top 10 life sciences states in the country, and we believe increasing support to this sector and to our innovation economy at large is a smart investment that plays to one of our commonwealth's greatest strengths.

However, this industry faces steep competition from our peer states (e.g. California, Massachusetts, New York, and North Carolina) if we simply remain content with the industry as outlined above.

Specific to the life sciences our programs pale in comparison to what other states – such as the \$1 billion fund (now up to approximately \$2 billion) Massachusetts created in 2008 – have put forth to attract investment. The Massachusetts Life Sciences Center is widely thought of as the gold standard in life sciences state government support. But other states are jumping on board – at the end of 2022, the New Jersey Economic Development Authority completed its first sale of tax credits to fuel the New Jersey Innovation Evergreen Fund. The first-round funding pool, which was released late year, will make approximately \$46 million available to New Jersey entrepreneurs and they plan to have the state become an equity investor in startups by deploying \$600 million total alongside professional venture capital groups.

This kind of early-stage company support is helpful and noticed by investors. By comparison, the only direct support the state offers early-stage life sciences companies is the \$3 million – one million each – that goes to the state's three life sciences greenhouses. A program that was created more than 20 years ago under the tobacco settlement agreement.

Even relatively “small” efforts, such as creating an SBIR Matching program (currently offered by 27 other states), an Angel Investor Tax Credit (offered by at least 21 states), and allowing associations such as ours to operate association health plans (offered by at least 30 other states) will help small companies allocate more resources to support their R&D efforts and build upon the strong foundations I previously outlined.

That is why conversations like this one are so helpful to generating new ideas and policies that can forge a path forward for Pennsylvania's growth.

There are Senators participating in today's hearing from across the Commonwealth and it's important to note these developments are not just confined to Philadelphia . Life sciences activity tends to be most heavily concentrated around these cities, but there are many projects throughout Pennsylvania that will benefit from this investment. Projects like...

- A medical device manufacturer that just completed a \$200 million expansion at its facility in Allentown. (B. Braun)
- A designer and manufacturer of packaging and delivery systems for injectable medicines that is investing \$60 million and creating 225 new jobs at a facility in Lycoming County. (West Pharmaceutical Services)
- A water purification company expanding its footprint (Purolite) in southern Chester County with a new, \$190 million biologics resin manufacturing facility. (EcoLabs)
- A worldwide leader in lab supplies that is expanding its Millersburg facility with a \$40 million investment in its manufacturing of critical materials used in developing new and existing biologics and vaccines. (Thermo Fisher Scientific)

Those are all larger projects but are indicative of the robust ecosystem Pennsylvania and Pennsylvanians enjoy. They're also the type of significant, long-term capital investments borne out of supporting early-stage companies in this sector and the ecosystem more broadly.

Life Sciences PA and its member organizations are happy to be a resource to you and look forward to working with this Committee, the General Assembly and Governor's administration on policies that support Pennsylvania's innovation economy.

*Christopher P. Molineaux
President & CEO
Life Sciences Pennsylvania*