

**Christopher P. Molineaux, Life Sciences Pennsylvania
Testimony – September 15, 2023
Senate Republican Policy Committee Hearing on Innovation and Emerging
Technologies**

Good morning, Chair Laughlin and members of the Senate Policy Committee. I am Christopher Molineaux, President and CEO of Life Sciences Pennsylvania. Thank you for giving me the opportunity to participate in today's 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.

It is important to note that while we are very proud of our almost 900 member organizations, and close to 100 members in western Pennsylvania, the state 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. I've left out the indirect benefits of the life sciences community, but there's certainly a significant multiplier effect for all the impact numbers noted above.

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. So, while the statistics I note 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 our 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 still millions of 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 today's hearing is 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 (thanks to all of you for putting the state on the right track).

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 as Mark and his colleagues at the Brookings Institute laid out, there is

room for the government to do more to bolster our innovation economy – especially in our sector – 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.

I'm going to come back to this point of government support in the life sciences, but I want to quickly inventory the reasons for the state's leadership in this space:

- 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 – Bayer, Cook Medical, Merck, Janssen, Smith & Nephew, GlaxoSmithKline, and 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.

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, I worry about Pennsylvania's standing relative to our peer states (e.g. California, Massachusetts, New York, and North Carolina) if we simply remain content with the industry as outlined above. As the Brookings Institute report highlights, all the resources outlined above are not commensurate with the number of private companies starting-up in Pennsylvania.

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 is being released this 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 – 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.

I know we have Senators here from across the Commonwealth and one point I’ve failed to make thus far, but is an important one to note, is that these developments are not just confined to Pittsburgh and 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.

Additionally, projects like Krystal Biotech's new manufacturing facility in Findlay Township, Castle Biosciences expansion in this very building, and the BioForge project in Hazelwood Green are all great examples of life sciences investment spurring economic growth locally.

I'm excited to hear from Teresa Whalen at CytoAgents, Evan Facher with Pitt (and an LSPA board member), and Jeanne Cucinelli at UPMC Enterprises on how we can work with policymakers to accelerate more growth like that throughout the commonwealth.

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.

Thank you for your time this morning.