COUNCIL OF THE CITY OF PHILADELPHIA

COMMITTEE ON COMMERCE AND ECONOMIC DEVELOPMENT

Room 400, City Hall
Philadelphia, Pennsylvania
Monday, March 25, 2024
2:24 p.m.

PRESENT:
COUNCILMEMBER MARK SQUILLA, CHAIR
COUNCILMEMBER MICHAEL DRISCOLL
COUNCILMEMBER JAMIE GAUTHIER
COUNCILMEMBER CURTIS JONES, JR.
COUNCILMEMBER NICOLAS O'ROURKE
COUNCILMEMBER JEFFERY YOUNG, JR.

RESOLUTION 240031 - Resolution authorizing the Committee on Commerce and Economic Development to conduct a hearing on the City of Philadelphia's capacity to prepare individuals of all educational backgrounds for careers in the growing life sciences industry...

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COUNCILMEMBER SQUILLA: Good afternoon, everyone. Good afternoon, everyone. The Committee on Commerce and Economic Development, today is Monday, March 25th, 2024. Welcome to the hearing.

I note that the hour has come and a quorum of the Committee is present. To my left is Councilmember Gauthier. To my right is Councilmember Jones and Driscoll.

The hearing is now called to order. This is a public hearing on the Committee of Commerce and Economic Development regarding Resolution No. 240031.

Mr. McMonagle, can you please read the title of the resolution.

THE CLERK: Resolution No. 240031, authorizing the Committee on Commerce and Economic Development to conduct a hearing on the City of Philadelphia's capacity to prepare individuals of all educational

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backgrounds for careers in the growing life sciences industry, with a focus on the cell and gene therapy subsector.

COUNCILMEMBER SQUILLA: Thank you so much.

Before we call the testifiers, I'd like to recognize Councilmember Gauthier for comment.

COUNCILMEMBER GAUTHIER: Thank you, Mr. Chair.

I authorized today's hearing on life sciences and workforce because I'm excited about this growing industry's promise to create jobs for residents from all walks of life.

The life sciences industry encompasses businesses and organizations whose work centers on the study of living things. It includes a diverse array of fields like biotechnology, pharmaceuticals, and medical research.

One of the most dynamic sectors within the life sciences is cell and gene therapy. Companies in this field are on

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the cutting edge of medicine, pioneering treatments that can cure conditions like congenital blindness and certain forms of cancer.

Given the groundbreaking work that is taking place only a few minutes from here, it comes as no surprise that a 2022 report ranked Philadelphia as the fifth best city in the country for life sciences, jumping four spots since 2021, a reflection of the robust talent and resources throughout our region.

In 2022, the Greater Philadelphia region was also ranked No. 2 among 14 cell and gene therapy hubs across the U.S. And Philadelphia has the fifth highest number of life sciences researchers in the country, and I know that the colleges and universities in my district play a major part in this statistic.

While our city's life sciences companies haven't escaped the consequences of the global economic

struggles brought about by the pandemic, the sector's future still shines bright. The breakthroughs happening in this industry will transform healthcare, and these kinds of scientific advancements will not be undone by rising interest rates. And our life sciences industry continues to move at a breakneck speed.

In October 2023, the U.S. Economic Development Administration designated Philadelphia as a Regional Technology and Innovation Hub, or a Tech Hub, making the Philadelphia area eligible for significant federal funding on top of the $9 billion already invested by the private and public sectors in recent years.

2024 is shaping up to be another milestone year for the life sciences industry. Already this year Governor Shapiro unveiled his Pennsylvania Gets It Done plan, the Commonwealth's first economic development strategy in over 20 years, which uplifts

the life sciences as one of its five pillars.

Iovance, who is here with us today, received FDA approval for their cell therapy that treats certain kinds of melanoma. The West Philadelphia Skills Initiative received $4 million from the MacKenzie Scott Foundation to further grow its workforce training capacity. And the Keystone Life Sciences Collaborative funded by the Good Jobs Challenge federal grant was launched with a participation of over 50 private and public partners.

My deep interest in the life sciences comes not only from the potential for transformative discoveries and historic economic growth but also from the industry's once-in-a-lifetime potential to generate family-sustaining jobs for constituents from every single background.

The life sciences job market has been explosive. According to the

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Bureau of Labor Statistics, between 2010 and 2020, Philadelphia County's biotechnology research and development sector added 4,510 jobs, an increase of nearly 800 percent. And according to the Chamber of Commerce for Greater Philadelphia, the region's cell and gene therapy sector doubled over the past five years.

Unlike the tech boom, life sciences companies will hire employees from several different educational backgrounds. For instance, as companies grow out of their R&D phase and receive FDA approvals, their manufacturing arms often have openings for individuals with only high school degrees. These are high-quality jobs that residents can feel good about while also supporting their families. And if we are smart and start now, we can use them to uplift our residents out of poverty and into prosperity.

Shortly we will hear from many

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different stakeholders, City departments, non-profits, and life sciences companies, all collaborating to provide life sciences training for Philadelphians. Right now the forecasted demand for employees far outstrips the City's capacity to train residents for these positions. We only have a few years to get this right. We do not have the option to sit by and let this opportunity to uplift our residents slip through our fingers.

I look forward to hearing from the practitioners on the front lines of this industry and to receiving feedback about what should be done to prepare our constituents for the lucrative jobs that will come online soon.

We have a responsibility to ensure that Philadelphians in the highest need neighborhoods have the tools and supports they need to get these jobs, and I look forward to working with everyone in this room to get that done.

Lastly, I want to acknowledge Mayor Parker for her interest in our city's life sciences sector. From our conversations on this topic, I know she will continue to be our steadfast partner in this work.

Thank you so much.

Thank you, Mr. Chair.

COUNCILMEMBER SQUILLA: Thank you, Councilmember. Great job.

As we start, we're going to call the first panel, and when you start, we're going to read them in order as your name is called. Just state your name for the record and then proceed with your testimony.

Mr. McMonagle, please call the names on the first panel.

(Witnesses already seated at witness table.)

THE CLERK: Dr. Bryan Tsao, Cait Garozzo, and Jill Gilburg.

DEPUTY SECRETARY GILBURG: Jen Gilburg.

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THE CLERK: Jen. I apologize.

COUNCILMEMBER SQUILLA: Doctor, you want to start first. Just state your name for the record and proceed.

DR. TSAO: My name is Bryan Tsao. Thank you, everyone, for having me here today to testify on behalf of our businesses here in Greater Philadelphia for life sciences and its impacts in the region.

So my name is Bryan Tsao. I am the Manager of Life Science and Healthcare Initiatives at the Chamber of Commerce for Greater Philadelphia.

As many of you know, over two decades ago gene and cell therapy research was pioneered here in Greater Philadelphia region, and over the last decade, the first FDA approved cell-based gene therapy, directly administered gene therapy, and also cell therapy in solid tumors was developed right here in Philadelphia. Today, I am pleased to discuss how we can leverage our past

successes to create a brighter future for Philadelphians.

The Chamber began its work to support life sciences industry in 2017. At that time, regional leaders recognized that we needed to capitalize on our innovation assets to compete and grow. That consensus was supported by a Brookings Institute that was released later that same year. The report catalyzed the regional call to action that suggested that local leaders could collectively address some of the greatest impediments to Greater Philadelphia's global competitiveness by collaborating and coordinating at scale.

In response to this clear call to action, the Chamber developed the private-sector led and funded action plan that, among other things, leveraged Philadelphia's precision medicine sector and, in particular, our cell and gene therapy assets. We focused on launching a multi-year effort to drive the

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perception and reality of growth in the life sciences sector in the region. And today, Greater Philadelphia is home to more than 60 cell and gene therapy research and development and related companies, up from 30 in 2019, and interest in expanding in our region continues to grow.

Over the last five years, the Chamber has supported more than 370 business expansion projects in collaboration with the City Commerce Department, the Commonwealth of Pennsylvania, and other regional partners. Almost 45 percent of those were in the life sciences sector.

Our partners -- sorry. Our efforts continue to fuel interest in our region, which has contributed to life science conventions and meetings being 40 percent of the business at PA Convention Center, and that often inspire long-term business opportunities. We can see that collaborative, cross-sector, and

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intergovernmental efforts can produce tangible results.

The sector growth and interest in our region continues. This progress is based on several factors that position the region for its current and future success. The Chamber's 2020 comparative analysis, which was done with the support of Econsult Solutions, Greater Philadelphia ranked second in the country out of 14 hubs in the U.S. doing work in the cell and gene therapy sector.

Because research, development, and manufacturing in these subsectors require a concentration of resources, location really matters for these businesses. Two important features that gave our region a competitive advantage are the proximity to research institutions and access to talent.

As a testament to our region's strengths, we were recently awarded a Tech Hubs designation for precision medicine from the CHIPS and Science Act,

which is continuing to fuel our growth as well as attract more funding and businesses to the region.

Additional areas of competitive advantages that were outlined in our written testimony include research infrastructure, innovation output, commercial activity, value proposition, and human capital. And talent is very critical to the success of this industry, and Greater Philadelphia is among those metros with the highest concentration of R&D talent. And based on the recent Campus Philly report, we also retain 50 percent of the graduates from local colleges and universities, giving us a major competitive advantage over other regions like Boston.

Equally exciting is the non-degreed talent our region is beginning to develop. Since 2019, the Chamber has convened a table of cell and gene therapy employers who have been willing to collaborate on shared talent

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solutions. As a result of their collaboration, we have seen the launch of multiple training programs focused on preparing adults for high-quality roles at those regional life science companies over the last 18 months alone. From the employer-customized programs between Wistar and West Philadelphia Skills Initiative and Iovance or Vintabio, the Community College of Philadelphia and WuXi Advanced Therapies, opportunities for non-degreed talent are being realized. With successful youth and adult career exposure programs being offered by the University City Science Center and the Philadelphia Education Fund, we are building a pipeline that will remain robust into the future. And these are just a handful of examples among many being developed across the community.

All of these efforts will be further amplified through the recent regional collaborations that have come

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together to pursue a large federal grant opportunity. Most notable for today's discussion is Greater Philadelphia's successful application to the EDA's Good Jobs Challenge, spearheaded by Philadelphia Works. The funding secured through this initiative catalyzed the creation of the Keystone LifeSci Collaborative, which is being led by a diverse core team comprising of the Chamber of Commerce for Greater Philadelphia, West Philadelphia Skills Initiative, The Wistar Institute, Montgomery County Community College, and Life Sciences Pennsylvania.

On March 9th, the Keystone LifeSci Collaborative convened over 20 regional biotech leaders and pharmaceutical employers alongside over 30 stakeholders in the workforce development ecosystem to identify critical gaps within our life science ecosystem and to help fuel the growth in the workforce. From this meeting, we

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identified five priorities our region needs to tackle to improve our ecosystem, and these are strengthening the business-to-business connectivity; developing coordinated strategy for building a talent pipeline; influence policy at local, city, and state levels; raise awareness of life science careers; and marketing the region as a life sciences hub.

The stakeholders in the Keystone LifeSci Collaborative will work together to address these challenges over the next three years in hopes to provide equitable economic opportunities for everyone in Greater Philadelphia.

Using this type of growing regional collaboration to create and expand innovative workforce models will allow Greater Philadelphia to realize the full potential of this industry. That full potential will create not just life-saving cures but life-saving economic opportunities for residents

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throughout our region.

We look forward to continuing to work with our partners to advance our shared goals of growing this industry, not just effectively but inclusively.

Thank you.

COUNCILMEMBER SQUILLA: Thank you so much for your testimony.

Ms. Garozzo.

MS. GAROZZO: Thank you. My name is Cait Garozzo. Thank you for having me today. I am the Executive Director of the West Philadelphia Skills Initiative, a workforce development intermediary which is a subsidiary of University City District.

For the past 13 years, the Skills Initiative work has focused on connecting some of Philadelphia's most prominent employers to our city's greatest asset, the talent that resides in our neighborhoods. For us, the life science industry's promising growth presents both immediate and long-term

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opportunities to connect our city's residents to high-quality careers within our neighborhood.

University City's world-class institutions and research centers are hubs of discovery, and those discoveries are spawning new ventures within the fields of life sciences, biotech and more. As those ventures grow, career opportunities are created, particularly when companies scale and manufacture their unique therapies, whether that capacity is developed on site or done through a contract development and manufacturing organization, or CDMO.

The technicians that work to manufacture these therapies represent our greatest near-term opportunity for driving more Philadelphians without degrees into this industry. To provide a sense of scale, 75 percent of the employees at some of the largest cell and gene therapy-focused companies are biomanufacturing technicians, and this

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role is projected to grow to about 500 jobs in the next five years here in Philadelphia.

Based on the Skills Initiative's work with the region's life science employers, we know that there's an immediate need for biomanufacturing technicians. That need is currently being addressed by programs offered by the Community College of Philadelphia and the Skills Initiative's partnership with The Wistar Institute, to name a few. However, to more fully address the projected needs, now is the time to prepare for the future of biomanufacturing. We see several critical areas that will allow Philadelphia to fully capitalize on the opportunity before us.

First, we must ensure that Philadelphians are academically prepared to take advantage of the available training programs, with math skills being especially critical. The Skills

Initiative and The Wistar Institute have operated three life sciences training programs to date. Two have been through the Navy Yard Skills Initiative, our partnership with PIDC, and the third has been based in University City with Children's Hospital of Philadelphia. We learned in running these programs that only 46 percent of the applicants to the program scored at an 11th grade math level in their assessments, which is the level required to successfully perform in training and ultimately a life sciences career. To address this gap, contextualized math programs for both youth and adult learners need to be further developed to match the life science industry requirements.

Second, we know that training programs are most successful when they mimic the environment in which the trainees will be working, and we found that Philadelphia lacks the necessary and affordable lab training spaces as we

continue to grow. In a recent report published by the National Institute for Innovation in Manufacturing Biopharmaceuticals, or NIMBL, the authors note that good biotechnology training programs mimic industry and, as such, require specialized laboratory spaces that accommodate cell culture, instrumentation, biomanufacturing, laboratory stations, chemical storage, and prep rooms. Specialized instrumentation and expensive reagents are needed to fill these spaces so that students can master the techniques used in the industry, making follow-on funding for consumables essential.

Finally, flexible, high-quality childcare and reliable transportation are especially critical for workers in the industry. Manufacturing environments are on 24-hour schedules, so securing second and third shift childcare and safe, efficient transportation to sites can be an additional hurdle for many

Philadelphians.

There is much to do to address these challenges, but we have made great strides as a community, many of us here today. Thanks to the efforts of Philadelphia Works, the region was awarded a Good Jobs Challenge Grant from the U.S. Economic Development Administration to build regional workforce systems focused on high growth industries, including life sciences. The Skills Initiative is leading the life sciences sector work, and in that role, we have brought together a team of experts to build the Keystone LifeSci Collaborative, a regional sector partnership focused on supporting Southeastern Pennsylvania's growing life sciences industry.

In coordination with Philadelphia Works and in partnership with the City's Commerce Department, the Chamber of Commerce of Greater Philadelphia, Life Sciences PA, and The

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Wistar Institute, among other regional entities, the Keystone LifeSci Collaborative brings senior leadership from regional life science firms to the table to surface key needs that our public and community partners can collectively address.

On March 6th, we held the first gathering of the Collaborative, and 23 C-suite leaders came together to offer new ideas and potential solutions to the issues that we face. The group of executives clearly identified talent as one of their primary growth concerns and committed to working collaboratively to address that challenge. As the group continues to work together, we look forward to sharing our findings and progress with this body.

In closing, the Philadelphia region is uniquely positioned to continue to be a top-tier life sciences hub, and a coordinated, strategic approach will be required to ensure the creation of

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equitable economic opportunity.

The Skills Initiative is committed to not just advancing its own programs in this space, but to bringing together the employers, communities, educators, and government partners that will be required to craft such a collaborative approach. We look forward to working together.

Thank you.

COUNCILMEMBER SQUILLA: Thank you so much.

Ms. Gilburg.

DEPUTY SECRETARY GILBURG: Good afternoon. I am Jen Gilburg. I am the Deputy Secretary of Technology and Entrepreneurship for the Department of Community and Economic Development for the State of Pennsylvania, a long title.

All right. First of all, thank you so much, Chair Squilla and Councilwoman Gauthier, for having us here. I think we've been excited about this since December. So thanks. We're

so glad it finally happened.

I'd like to kind of talk and testify about what the state government is doing to assist in workforce development for life sciences here in Philadelphia and of course elsewhere in the Commonwealth.

As Councilwoman Gauthier said, Governor Josh Shapiro announced in January his new ten-year economic plan, and as we began the process of writing this plan, we traveled around the Commonwealth, including Philadelphia, and held roundtables attended by local business leaders, economic development, and non-profit partners, legislators, all to help inform what the needs are for each of Pennsylvania's regions.

One thing we heard universally is the need to support workforce development from high school to trade to college graduates. With an aging workforce, drop in female workforce participation, and out-migration, we run

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the risk of over 700,000 unfilled positions within a decade, and that is unacceptable, because then we won't attract businesses.

This especially rings true for life sciences here in Philadelphia. For our startups to grow and not be forced to move to states like Massachusetts, New Jersey, New York often as a requirement to receive venture capital, we need to prove as a region that we can create a pipeline of skilled employees.

For young people and families to stay in the Commonwealth and to stop that out-migration, they need opportunities for high-paying jobs regardless of their educational achievement. Governor Shapiro strongly believes that Pennsylvanians should be able to chart their own course to success.

In his 2024-25 budget, Governor Shapiro has focused on creating opportunities for Pennsylvanians to get

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good-paying jobs, championing skilled-based hiring and workforce development. This budget invests 2.2 million to support workforce development and workforce needs of Pennsylvania's workers and businesses, respectively.

It has $2 million for Career Connect, which is an investment that will connect employers with talented workers, help create thousands of internships, keep young people in our Commonwealth, and enable Pennsylvanians to secure family-sustaining jobs.

He has earmarked 2 million to help businesses transition to skills-based hiring practices away from arbitrary degree requirements.

He has $2 million to build a one-stop shop for career pathways by having a single digital location for all career, education, and training resources. All Pennsylvanians, regardless of whether they are middle

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school or mid career, can find resources they need to plan a better, brighter future for themselves and their families all in one place.

And he has earmarked half a million to expend and improve the Department of State's Military Occupational Crosswalk, which connects veterans and civilian -- sorry; which connects veterans with civilian career opportunities equivalent to their military experience, something very important for Pennsylvania as well.

Relative to life sciences in Philadelphia, we will continue to partner with and to amplify the amazing work of the organizations here. And lots of friends I have formed with the people in the galley there, as everyone is working hard on this. I'm going to call out some. I'm probably going to miss some. This is going to be my Oscar moment where I miss the most important partners, so apologize in advance, but Wistar's

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Biomedical Technician Training program, West Philadelphia's Skills Initiative, Community College of Philadelphia, Montgomery College of Philadelphia [sic], HelaPlex Biotechnology Workforce Development Training program, University City Science Center's Building and Understanding of Lab Basics, or BULB program, of course the Skills Initiative, the Chamber. Again, in addition to our world-class research institutes, these programs really train participants in the specific skills for jobs in life sciences within the region.

We are looking also beyond PA to what other states are doing who have strong growth in life sciences to see if programs they are running can be replicated in the state. So we're looking at NC Biotech, Mass Life Sciences Center, Pathmaker. Those are examples of training programs that support the needs of life science industry partners to ensure skills of the students map to the

job requirements.

And then just details of the budget can be found at the Shapirobudget.pa.gov. Details of the economic plan can be found at PAgetsitdone.com, just for further details of this.

So, again, it will be difficult to achieve the economic growth we are worthy of as a Commonwealth without a robust workforce, and the Governor's Administration remains committed to ensuring every Pennsylvanian has access to family-sustaining jobs.

Thank you.

COUNCILMEMBER SQUILLA: Thank you so much for your testimony.

Before we ask for any questions, Councilmember Jones.

COUNCILMEMBER JONES: Yes. Thank you, Mr. Chairman, and I want to thank the author of the resolution for leaning in and being forward-thinking about the workforce needed in the City of

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Philadelphia.

And thank you, all of you, for what you do in your respective roles to bring this about.

My question is twofold. First of all, I left this morning EMSCO. That is a brand new office building designed to deal with bio --

COUNCILMEMBER YOUNG: They're here.

COUNCILMEMBER JONES: They're here?

See, I shouted you out without you asking.

But that is proof positive for me that this industry is on its right trajectory. That's number one.

But there's also Budd Biotech that we're trying to develop in Hunting Park. I know the Third District has all of the great firms, but we have a few too.

COUNCILMEMBER GAUTHIER: Yeah, absolutely.

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COUNCILMEMBER JONES: So my question is, where is the connect between our high schools? I know I probably was the last class that actually had a working Bunsen burner and little tubes and experiments. Have you reached down granularly into the high schools to see -- you mentioned 11th grade math, but other skills that we can retro-engineer into the schools with equipment to feed this workforce need that you're having? And I know you'll have great answers for that.

MS. GAROZZO: I think you're going to hear some other testimony today that will be well aligned to that question. The work that the Skills Initiative is focused on with our partners at The Wistar Institute is for folks 18 and over, just because that's the world that we work in. I know our friends at The Wistar Institute do high school programs. Our friends at the Science Center have high school and below

exposure programs, and I think you'll hear from a lot of partners today that are doing that good work.

But you bring up a very good point of ensuring that folks that are in school that are interested in this career both are exposed to it as an understanding what is the career, what are the opportunities, where do you need to focus, and that the work that they're doing in the classroom can be as contextualized as possible.

I think what we have found is that folks were really -- in our very specific example around math, these folks are very concerned about taking a math class, but we worked with Temple University's WELL program, and they developed a contextualized math program where all of the math that was taught over nine weeks was relevant to the work they'd be doing in the life sciences industry, and that made it accessible, appropriate, and had a goal attached to

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it of getting that job, and that was a great success.

So that would be my answer to that particular question.

COUNCILMEMBER JONES: Come on, Commonwealth.

DEPUTY SECRETARY GILBURG: So we do have a number of programs that we fund around apprenticeship and pre-apprenticeship. We have a lot related to manufacturing where we have high school students engaged with manufacturers to solve some problems, and that can include life science manufacturing. So we do have a number of programs that are encouraging.

From DCED, we're sort of mostly focused on after high school, but I'm sure Department of Education has a lot that they're doing with the high school and below even, and I can find out more about that and owe you that answer.

COUNCILMEMBER JONES: If you could provide that connection between our

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Department of Education and the state and give that to the Chair and the author of this legislation, I think we can kind of make peanut butter and jelly come together and make some bread. So I think that's important, because otherwise we're in a constant cycle of importing people to fit the role of the workforce as opposed to growing them organically from within.

DEPUTY SECRETARY GILBURG: And Cait made a very strong point about exposing kids to why they need math, and I see this in manufacturing a lot where kids will have this "aha" moment about how, wow, I always thought math was a waste of my time and now I see how I could use it. And so I think whatever programs we can create as a community and with state support to reach down and show kids why they need to have 11th grade math aptitude for these great jobs and why they need to lean in to math.

COUNCILMEMBER JONES: I forget

the school. It's in Lehigh, Pennsylvania, but it's a regional CTE school, and we went to visit this place and they were doing experiments at a young age in the sciences, and they were doing tool and die cutting that was going to wind up on the Space Shuttle, and I literally rode home with municipal envy thinking how they grow their workforce as opposed to what we might be able to do.

So any way that you can make those connections, I think that would be worthwhile to the workforce in Philly.

DEPUTY SECRETARY GILBURG: Yeah. Thank you.

COUNCILMEMBER JONES: Thank you, Mr. Chairman.

COUNCILMEMBER SQUILLA: Thank you, Councilmember.

Councilmember Gauthier.

COUNCILMEMBER GAUTHIER: Thank you, Mr. Chair.

First, Deputy Secretary Gilburg, I just wanted to thank you and

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Governor Shapiro for everything that you're doing to promote the life sciences in our state and everything that you're doing to support our city. I know I've been with the Governor twice in University City over the last several months, and it's just a very clear indication of his commitment to helping us grow and train people for this sector.

We're very excited about Governor Shapiro's plan PA Gets It Done, in particular the investments into workforce development. You know, I think you succeeded at your Oscar's moment and you named all of the high-performing --

DEPUTY SECRETARY GILBURG: I'm sure someone is going to get me at the end.

COUNCILMEMBER GAUTHIER: You named and gave credit to all of the top performing programs that are in the City and that we have here today, but I wanted to take an opportunity for them to hear from you on what we should be doing to

take advantage of the resources that the state is making available for workforce training and development.

DEPUTY SECRETARY GILBURG: So I often make the comment that it is apparent that our state was founded by Quakers, because we're not good at self-promotion. And so I think part of the task ahead to get kids into the top of the funnel, if you will, is really to promote all of the opportunities and the access to that. And I think where one of our biggest gaps is as a state and since we're in Philly today, we'll say in Philly, is that very beginning of the funnel of the pipeline. So how do you get someone who doesn't think they could do this job to step up and get the training so that they can do the job. And I don't know that I have answers today, but that's an area that I personally am hyper-focused on, is how do we get those who don't have parents that work or have a single parent who works

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all the time and isn't showing them a pathway, how do we get them to believe that they can do this type of job.

And so I think that is a marketing, it's how do we get a bunch of Gen Zers on staff to do a great TikTok -- well, I guess we can't do TikTok, but a great Instagram --

COUNCILMEMBER GAUTHIER: I think we still can.

DEPUTY SECRETARY GILBURG: -- Instagram campaign and how do we really think creatively on how we get those kids to the like baseline, and then we have the programs to take them through.

It's just that one area I think is -- and it's a struggle everywhere, but how do we get these kids that don't think they could have a high-paying job in life sciences to step up or take that first step.

COUNCILMEMBER GAUTHIER: Yeah. I can personally attest to what you're describing and what Councilmember Jones

talked about. I have a 16-year-old that wants to be a biomedical researcher, but that's because of what he was exposed to in school, right? I do not have a science brain. It was him getting involved with the Science Center's Firsthand program when he was in middle school and then Stepping Stones that sort of opened up a whole world. So I think we have to really invest in that exposure.

Deputy Secretary, you talked a little bit about what's going on in other states. I wanted you and others who are interested on the panel to share a little bit more about what we should be learning from other regions and what is our government doing, our local government, doing well right now and what are lessons that we should be adopting as we move forward.

DR. TSAO: So when I first joined in May of 2022, one of my first tasks was to help develop a plan to

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advocate for an innovation fund for the State of Pennsylvania, and thankfully that has come to fruition from Governor Shapiro's budget.

When we were doing research into this, we looked at Boston; Cambridge, Massachusetts; and also North Carolina, and as you -- many of you may know, Boston started investing in life sciences back in 2009, a billion over ten years, and has been renewed a couple times since then. So we kind of closely followed their trajectory, how they started with the one billion fund going around Massachusetts and kind of brought the biotech industry out of Cambridge, and then we kind of followed their trajectory of workforce development as well, which is a big part of their Massachusetts Life Science Center now. And I think Deputy Secretary Gilburg mentioned earlier about the Pathway program, which is one of the cornerstones of the workforce development in

Massachusetts that really helps a student or trainee map out their trajectory through the careers. So that's something that we could definitely do.

And then for North Carolina, the Research Triangle, they have a state-certified program that they have from -- at the State College of North Carolina and also the community college that people could join in, get the training for biotechnology, and that certification is available to get positions everywhere, anywhere in North Carolina. So it would be really helpful to have something similar, but we definitely want to do it the PA way. So that's really up to the budget and kind of how that policy shakes out.

COUNCILMEMBER GAUTHIER: Thank you.

Do you want to add anything, Ms. Garozzo?

MS. GAROZZO: I will just plus what Dr. Bryan Tsao said in that the

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theme is that there is kind of an agreed-upon-by-industry set of credentials. That's what the Pathmaker program is out of Massachusetts Life Science Center. That's what Bryan was describing.

Coming out of North Carolina is, that industry has agreed, right, that these non-degree programs achieve a certain set of knowledge, skills, and aptitude, and that that is agreed upon to be a credential of some sort to get in.

We're on our way. We're moving in that direction, but I think that is one of the biggest lessons learned, from my perspective, that we should bring here.

DEPUTY SECRETARY GILBURG: I would say I've spent a fair amount of time with the woman that runs the NC Biotech at the North Carolina Biotech, and the community colleges -- they have 56 community colleges, which is a lot, I think, a lot more than we have, and

they're centrally kind of mandated, but they do partner with manufacturers in their regions and get equipment in. So they're doing practical training on the exact equipment that the students would go and get jobs working.

So they have a good public-private partnership with -- and I'm sure Mass does too, but that was one thing that really stood out from the North Carolina program.

COUNCILMEMBER GAUTHIER: Wow. Who is paying for that equipment?

DEPUTY SECRETARY GILBURG: I think the companies donate the equipment, because it saves them a lot of money in training costs if the students are trained on the exact equipment, so then they don't have to spend three weeks when they get to the job to train. So I think they did the cost analysis and it seemed to work in their favor.

COUNCILMEMBER GAUTHIER: Thank you.

Thank you, Mr. Chair.

COUNCILMEMBER SQUILLA: Thank you.

Thank you all for your testimony. Much appreciated and looking forward to the continued growth.

Mr. McMonagle, can you please read the next panel to testify.

And while we're waiting for the next panel to come up, before you do that, I want to recognize Councilmember Young is present for the hearing.

THE CLERK: Can we please have Unique Stephens, Tylier Driscoll, Veton Meas, and Shawmar Pitts. And I apologize if I butchered anyone's name.

(Witnesses approached witness table.)

COUNCILMEMBER SQUILLA: Thank you. We'll start with Unique, if you just want to say your name for the record and then proceed with your testimony.

MS. STEPHENS: Good afternoon. My name is Unique Stephens.

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COUNCILMEMBER SQUILLA: Just bring the mic closer to you.

MS. STEPHENS: My name is Unique Stephens. Currently I am a senior at Cheyney University and I intern at Wistar Institute as a lab assistant. I appreciate the opportunity, one, to be here and share my experiences and insights with you today.

I am here to discuss my journey through the Biomedical Research Method class at Cheyney University, my summer internship at Wistar, and my current position at Wistar.

The Biomedical Research Method class at Cheyney University played a firm role in shaping my understanding of the life sciences. The program provided me with a solid foundation in research methodologies in numerous techniques, equipping me with the skills and knowledge necessary for success in the field, including cell culturing, which is the process of growing cells in a

controlled environment, which is extremely necessary to conduct many experiments. This is a process that many scientists of all levels have to do in order to complete their research.

In my current role, I culture my cells because the cells that I use emit a measurable response when exposed to various drugs. In my research, we are using novel plant extracts from South Africa to see what the cellular response will be after extended exposure.

Prior to the start of the course, I was worried about what the course would entail, because I had very limited lab experiences, especially because I began college during COVID-19, so all of our lab courses were online. I believe that the professors expected me to have a higher level of skills than I did, but they were extremely thorough in explaining all of the expectations that they had. So all of the techniques, the math, it was very easy for me to

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understand and digest.

Following my time in the course, I had the privilege of participating in a summer research internship, which further expanded my scientific knowledge with hands-on skills and allowed me to be heavily involved in research efforts taking place in a lab. I learned many techniques that go beyond scientific skills, such as adequate note-taking, collaboration, communication, time management, and patience.

My current position at Wistar has both been challenging but extremely rewarding. It has exposed me to progressive research, such as having the chance to work on the creation and testing of a protocol that would help resource-constraint labs analyze data using equipment readily available to them opposed to having to spend tens of thousands of dollars on new equipment.

My involvement in life sciences

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at Wistar has allowed me to contribute to meaningful projects that have the potential to impact lives positively, and this journey has solidified my passion for the life sciences and fueled my desire to be a part of a team that strives to make a difference.

My interest in this specific role in life sciences in general was sparked by the education I was provided in a career and technical education course, CTE course, in high school. This course was called Health-Related Technologies, and it was the first course that broke down the sciences and the anatomy of the human body, but allowed me to also gain hands-on and career experience in healthcare-centered environments.

Deciding to continue my science journey in college, this collaboration between Cheyney University and Wistar reminded me heavily of that class that I took in high school and has been a major

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factor in encouraging me to continue to learn and be involved with research.

Life sciences is an ever-growing field, especially in Philly with many state-of-the-art research institutes and universities present in the City. I wouldn't have imagined that I would be participating in the work that I am doing now back in high school, because there were many factors that had deterred me from gaining interest, such as my reluctance to be involved in any after-school programs because I needed to have a job at the time of the offered programs, and it seemed far fetched that someone from my limited science background would succeed in the field.

It is important that positions within the life sciences are open to fresh eyes and have a diverse workforce. Increasing collaborations between education institutes and industry professionals will act as an introductory and transitional bridge for students and

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others who want to become involved in the life sciences. Also, the encouragement of employees to offer and endorse on-the-job training for introductory positions and compensation that allows employees the ability to comfortably afford common expenses and help eliminate additional employment barriers; introducing inexpensive or cost retraining in skill development programs such as workshops, seminars, and courses that can also encourage enrollment of these fields and help people who wish to develop these skills.

Overall, investing in STEAM education, which stands for science, technology, engineering, art, and math, especially in research-constrained public schools, will encourage the employment of the youth and students of the Philadelphia education system to continue to be inspired to pursue life science careers.

And since I wrote this in

December, I've actually been extended a full-time offer once I graduate in May at The Wistar Institute, so I'm very thankful for that.

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(Applause.)

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COUNCILMEMBER SQUILLA: Congratulations. That's great to hear.

MS. STEPHENS: Thank you.

COUNCILMEMBER SQUILLA: Before we move to the next testifier, I'd like to recognize Councilmember O'Rourke, who is present for the hearing. Thank you.

Tylier, if you want to state your name for the record and then proceed with your testimony.

MR. DRISCOLL: Hello, everyone. My name is Tylier Driscoll. I am currently a laboratory technician at Bioanalysis. It's a gene therapy startup company and biophysics company, and I am also a student at Temple University. So I'm just going to be giving my experience

coming into STEM or STEAM.

So as a child growing up in the City of Philadelphia, no matter where I looked to or who I turned to, there was always someone in need of help. The people of my community would struggle oftentimes medically, and subsequently that would lead me to asking myself when I grow up, who do I want to be and how could I best help those around me. Now, even though I wouldn't find the answers to those until years later, I would gradually be drawn to the life sciences as I grew up and aged.

I learned about science from my mother, who was a medical assistant, and she would speak to me about what scientists and researchers did in laboratories with their desire and drive to help others. This was one of the many driving factors that pushed me to the answers that I would ask myself all those questions years ago, which was of course STEAM.

Once I got to college, I decided to major in biology at CCP, and eventually an opportunity presented itself to me when my biology professor recommended that I apply to the BTT program rather emphatically. So during my time in the BTT program, which is Biomedical Technician Trainee program at The Wistar Institute, I was given the opportunity to apply knowledge that I had gained during high school and college in a state-of-the-art research lab.

The first couple weeks were spent learning various laboratory techniques that would prepare us for two upcoming lab internships or rotations. It was here that trainees like me built a foundation for the upcoming rotations through learning and applying molecular biology techniques and concepts. These include simple techniques from micro-pipetting to polymerase chain reaction, plasma introductions, ELISAs, and the list goes on and on.

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I had one rotation that was spent in an academia laboratory and another at an industry laboratory. My first rotation was spent in my current job, which is Bioanalysis, where I was introduced to analytical testing techniques such as AUC and HPLC, which stand for analytical ultracentrifugation and high-pressure or performance liquid chromatography.

The structure of the BTT program was key to my success while I was at Bioanalysis and my second rotation at the Montaner Lab, of course. The weeks that Dr. Shuda McGuire and a few others spent guiding us built my confidence going into Bioanalysis and was the foundation of my success during my time there.

While working with scientists and QA professionals, I was tasked with giving a presentation after my rotation and also instructed to write a paper where I detail my experiences and

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research that I participated in. These two assignments aided in my curiosity and desire to know more about the techniques and principles that I was learning.

BTT helped me by giving me the tools needed to succeed while simultaneously allowing me the freedom to learn, which was really important.

Overall, I'd like to ask the City Council to keep my story in mind, as I am one of many students who share a passion for the life sciences and story with the BTT program. I genuinely believe that programs such as the BTT program and future programs in the Wistar -- at The Wistar Institute like the Biomedical Research Technician program deserve greater visibility and representation in Philadelphia high schools and colleges.

As a Philly native who attended Science Leadership Academy High School, if I had access to a program such as this one earlier, I'd be even further along in

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my career, because I'd have gotten an invaluable experience in programs catered to applying my pre-existing knowledge in STEM. Of course I'd also have the opportunity to further develop that knowledge as well. And, most importantly to me, like I didn't have -- I didn't know what it looked like to exist or work in a lab, because we didn't have the opportunity. So I'd also have been able to experience what a STEAM career looks like in the real world.

Thank you.

COUNCILMEMBER SQUILLA: Thank you. Thank you so much for your testimony. Great job.

Veton, I guess state your name for the record and then you can proceed. Just pull the microphone a little closer to you.

MS. MEAS: Sure. Hello, Councilmembers. My name is Veton Meas, also known as V, and I am a graduate and alumni of the biomedical program from The

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Wistar Institute and the West Philadelphia Skills Initiative.

I'm currently an aseptic manufacturing technician at Iovance Biotherapeutics. I would like to first thank Iovance and everyone involved for giving me the opportunity to speak about my experience.

My journey in the life science interest started off with me searching for more purpose in life. I've always had an affinity for science, but I had personal setbacks that did not allow my dream to come into fruition.

Before working at Iovance, I was actually working as a barista at a cafe in Kensington and I was struggling to make day-to-day -- I was struggling to make ends meet day-to-day. I remember I was commuting for almost an hour to work every morning on the Market-Frankford Line and walking under Huntingdon Station and observing my surroundings and just feeling totally demoralized because of my

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environment. I just felt like I was busy surviving and not living. I felt like I was constantly at my wits' end.

A lovely regular of mine from that cafe that I was working at would empathize with my struggles, and she provided me a brochure on the biomedical program that I'm now an alumni of. By happenstance, I was able to turn my life around, and the rest was just history.

I can say that I now have more purposes now that I have a role in aiding patients who are afflicted by cancer. Because I was able to change my life through happenstance, my big question today is, how can the City of Philadelphia support more people to find out about these specialized programs, be admitted and complete the training?

I often hear my peers and colleagues emphasizing how we are in the same place in life, but the difference is that they have a degree, with insurmountable debt, and I merely have a

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high school diploma. If they knew that they did not have to go through rigorous courses in local colleges or prestigious universities, they may have opted for a program that my cohort and I completed.

After much research, I've learned that furthering skill sets or education comes with a big price, and there are not enough avenues to advance in careers in the life science industry without accumulating debt.

Students grade 9 to 12 should have access to information and resources on these specialized programs if they aspire to have a career in the life science industry, and local universities and colleges should try to partner up in their cities to provide students more information on these specialized programs.

Thank you.

COUNCILMEMBER SQUILLA: Well, thank you. And all your testimony too shares not only the challenge but the

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opportunities that are out there for our young folks, and hopefully we could get that information out there by having a hearing such as this.

Councilmember Gauthier.

COUNCILMEMBER GAUTHIER: We have one more.

COUNCILMEMBER SQUILLA: We have one more? Oh, yeah. I'm sorry. Shawmar.

MR. PITTS: Shawmar, yes.

Hi, everybody. Good afternoon. I got a little cold, so my throat is hurting a little bit.

But first thing I want to do is acknowledge these youngsters up here today. Man, I'm so proud of y'all, for real, seriously. I'm really proud of y'all.

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(Applause.)

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MR. PITTS: The hard work that y'all doing, an example that you're

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setting.

I'm here today -- my name is Shawmar Pitts and I'm a lifelong Philadelphian and I'm the Co-Manager and Director of Philly Thrive, and I'm commenting today on this resolution because Philly Thrive as an environmental justice and housing justice organization, we represent hundreds of Philadelphia residents, mostly based in Grays Ferry but not limited to Grays Ferry. And I will be talking about the effects life science developments have on our neighborhood and the need for early job training and community investment and how life science developments can support green jobs and real community engagement.

As mentioned in the resolution, many life science developments are located immediately next to high poverty and high unemployment neighborhoods. According to the 2022 American Community Survey, the 19145 zip code in our neighborhood has an employment rate of

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only 60 percent. Grays Ferry in South Philly is surrounded by five planned or already existing life science and biotechnology developments with budgets totalling over $1 billion.

These existed developments are already putting significant pressure on our community. Rising housing costs are forcing out long-term Black residents.

Between 2016 and 2021, the median home prices doubled in Grays Ferry. Rents increased, and wealthier residents moved in. The median household income went from $32,000 to $58,000 and particularly in the neighborhood track that doesn't include PHA housing. Black residents decreased from 71 percent of the population to just 33 percent in just five years.

We support increasing job opportunities for low-income Philadelphians, but what good will those jobs be if those same residents are getting pushed out of the neighborhood?

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We need development and job programs to go hand in hand with policies that keep long-term residents in their homes, such as home repairs and truly affordable housing. And I'd like to call it low-income housing, because affordable got a few different definitions, you know, depending on who you ask, right?

Now, when it comes to job training, we applaud the School District for emphasizing STEM education. And I just learned a new acronym from them today, STEAM education, right, as well as career and technical programs.

These are the type of programs we need in our K through 12 schools. These programs and investments in education will not only prepare students for well-paying jobs in the life science industry, but also serve to reduce gun violence.

A study done by the City in 2021 found that there is a strong correlation between high unemployment and

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rates of gun violence geographically in Philadelphia. And I'll use myself as an example. I went to Audenried High School at 32nd and Tasker Street, and when I went there, it was a school that prior to was a junior high school, and it was old and it was in disrepair and it was like crumbling like right around us. We didn't have a robust budget for after-school or extracurricular activities or like the sports programs and things of that nature.

And since then, Audenried, since I've been there -- that was a long time ago, right? Time flies. But since then, right, Audenried, they tore it down and they built a new school, and the whole mindset, you could see a change in the students in the whole mindset.

When I went there, it was like get ready to gang war. That was the whole atmosphere. Just get ready for the gang war when you get there, just how dim the lights was and how dull the paint was

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and just how it was just falling down and dilapidated. It just was a bad space to be in. It brung bad energy to us.

So now they built the new Audenried, and it become a charter school. And shout-out to Audenried, because now our girls basketball team, you know, we contending for the state title now, right? And we won the public league title, right, two years in a row, where as though you couldn't even think of that back in the day, because why? Because it's not in the budget. But now you see just a little bit of investment what can happen, right?

So we need investment in our schools and we need investment in our community, because I want my community members and the youngsters in my community to turn out like these young people right here, right? And, you know, it gives me great -- I just feel great just sitting up here with them, right? Like this is a possibility in my

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neighborhood. And I wish I could have brung the kids that come to the children's program at Philly Thrive just to see people that look like them and that come from where they come from and what they're doing in front of City Council right now testifying about life science and how it affected them and how it benefited them.

And I believe with my community now where we stand with life science campuses like literally surrounded my whole community, that we need to invest heavily in our communities so that -- because what happens is in the past, things will come and things will go because there's no investment in our community, so those opportunities just not going to be there for us.

But now we know it's coming. It's here already. So let's invest in our community where we can have the turnout for a lot of children to be just like them. This is an example right

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here. We know it could be done. They here -- living proof right here, right?

So I just wanted to say that, because now -- let me get back on track.

Our newly elected Mayor said it best. We want Philadelphia to be the safest, cleanest, greenest big city in America. Investing in job training in low-income neighborhoods will make our city safer. Life science developments also give us the opportunity to make our city the greenest big city in America.

All new large developments must be fossil fuel free. And when I say "fossil fuel free developments," I mean more green jobs, not just inside the life science developments but on the outside, doing the building.

The City needs to focus on not only training our young people for jobs in the life science industry but also on green jobs. Philadelphia can be a leader on that front as well.

Finally, Philly Thrive has been

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negotiating with Hilco on the Bellwether District for close to four years. The City can support its own job training programs and equitable hiring practices, and the City can enforce best practices when it comes to developers.

Philly Thrive had to work for three years to achieve an in-person public community meeting for the Bellwether District, and there's no way that should be the case.

We still haven't gotten the answers to the questions that we asked at that public meeting coming up on a year. It says here over six months ago, but it's close to a year now. The current experience of our RCO leaders, the registered community organizers, is that developers come in and always promise jobs that never come. We still don't have transparency on Hilco's hiring of who is working over at the Bellwether District now or what the job training program is going to look like.

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Community benefits agreements can be a key strategy to ensuring that job training programs and hiring practices benefit both the community and the developer. However, our current experience is that the power dynamic at the negotiating table is uneven. We need Councilmembers to support -- we need the Councilmembers' support to queue the process in the earliest phase of development right away, like our Councilmember Gauthier, like she has done, to ensure that there is an adequate amount of time for the process. It is through CBAs and community input that we can have even more successful job training and employment opportunities for the communities that need it most.

We at Philly Thrive, we know that Philadelphia has the potential to be the safest, the greenest big city in America. Life science development has the potential to help us get there, but only if done with equity at the

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forefront. Job training and employment programs for the neighborhoods with high poverty and high unemployment rates must go hand in hand with policies that keep people in those neighborhoods and not pushed out.

Job training must begin at the high school level, and I even say at the middle school level, which can play a role in decreasing gun violence among our young people. We must think about green jobs, installing solar and renewable energy, to make sure that all new development is fossil fuel free.

Finally, Councilmembers need to offer incentives for developers to actively and transparently engage with the community to ensure it is those community members receiving the good green jobs we all need and deserve.

Thank you so much.

COUNCILMEMBER SQUILLA: Thank you so much for your testimony, and I know Council President Johnson has been

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very in tune with what's going on there and helping to work the community to engage with Hilco.

But I do know that we do have a couple of -- the Chair recognizes Councilmember Gauthier.

COUNCILMEMBER GAUTHIER: Thank you all for your testimony. I did want to -- thank you, Shawmar. Thank you, Mr. Pitts, for your testimony. I think it was really important, and I think that's the reason why we're here today, right, to make sure that there is equity in this.

Even thinking about in my district, the University City Townhomes was demolished the other day.

MR. PITTS: Yes.

COUNCILMEMBER GAUTHIER: That's partly -- part of that story has to deal with the growth of the biotech and life sciences sector up and down Market Street, right, because it becomes more lucrative for someone to opt out of

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low-income housing to potentially build a research campus or some type of life sciences development. But the reason why I and this Council stood up for those families is because we're not going to throw people away in the name of economic development.

So it's imperative that we invest in training so that people can get these jobs. It's imperative that we undertake anti-displacement strategies to make sure that people, Black and brown people specifically, remain in our neighborhoods.

And so for me, the opportunity here is to show something different, right? We've seen cities where tech has exploded, for example, displacing lots of folks as the economy grew, but this can be an opportunity for Philadelphia to show how people can grow with industry and how we can use the growth of industry to lift our current residents, not people that we're going to replace them with,

right, current residents out of poverty.

So thank you very much for coming and giving that context, because that's a big part of why we're here in the first place.

And I want to say to all of you guys, we're so proud of you. We're so proud of you. It was so inspiring to hear all of your testimonies, and you're blazing a path that other young people in our city can follow, right? There is no reason with the growth of science and biotech and cell and gene therapy that Philadelphia shouldn't be turning out the most scientists in the country, the most scientists of color in the country. So that's a new goal, right, for young people to be able to follow in your footsteps because of all of the opportunity in this space.

I wanted to ask you all -- Unique, you gave some excellent recommendations for how we can be supporting folks who are trying to get

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into this sector, but I wanted to ask the rest of you, and if you want to expound too, Unique, what services or supports do you wish that you had while you were pursuing this career in the life sciences sector? And what should the City be providing for learners and jobseekers that do want to follow in your footsteps? Anybody can start first.

MS. STEPHENS: So similar to what Shawmar said, I went to Sayre --

COUNCILMEMBER SQUILLA: Can you just state your name. Before you speak, just state your name again.

MS. STEPHENS: Okay. Unique Stephens.

Similar to what Shawmar said, I went to Sayre High School in West Philly. So we weren't really exposed to science. Of course we had chemistry, physics, biology, but I never got the chance to dissect a frog like a lot of people do. So my experience in science was very limited to just the teacher telling us

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what was supposed to happen instead of having hands-on experience.

So I think it's important to have that hands-on experience while also making sure that the students are able to understand what you're trying to teach, because a lot of times the teacher -- I remember in biology she would put on a song to try to get us to understand what the organelles within a cell are in. Sure enough, about eight years later I still remember that song. So it's all about accessibility and making sure that you're getting hands-on experience as well.

I think that it's hard for me in high school to see myself here, because I didn't see myself going to college, and I think that's a similar story for a lot of other people. So having programs where college isn't the only way to get there will also be very important to helping that situation grow.

COUNCILMEMBER GAUTHIER: Thank

you so much.

Veton.

MS. MEAS: My name is Veton Meas.

Something that I think that the School District of Philadelphia and other resources can accommodate students in the future is having a lot of professional mental and emotional support for students. In my personal experience, a lot of my setbacks actually started back in high school.

For background, I went to Franklin Learning Center, and my major back in high school was health-related technology. So my affinity for and love for science actually started back then. However, I went through a lot of personal challenges that prevented me to actually further that. So I believe that mental health and counseling should be provided for students.

COUNCILMEMBER GAUTHIER: Thank you so much.

Tylier.

MR. DRISCOLL: Tylier Driscoll.

So in my experience, I went to Science Leadership Academy, which was, as many of you could guess, was dedicated to learning science. So, you know, in my experience, we had a lot of science classes, but some of them weren't necessarily -- like our biology and chemistry classes were combined, and that's -- going into college, I would have preferred them to be separate, because I had to relearn biology and chemistry a little bit separately.

I think to support other people and future students in the Philadelphia area, I would say there needs to be a lot of outreach. I know -- I have brothers that are in Boys' Latin High School. They don't have the programs that I had access to in high school. Additionally, I also had to work a job in high school at a senior center, so I couldn't even really partake in a lot of these programs

that were offered to me. So I think if there was more incentives financially for students to be able to participate in these programs, that would be great.

COUNCILMEMBER GAUTHIER: Councilmember Young, were you in line for questions?

COUNCILMEMBER YOUNG: Yeah. I just have a couple of questions for the young people on the panel.

The opportunities that you participate in today, like how did you hear about them?

MS. STEPHENS: So I actually heard about it -- do I have to say my name again?

COUNCILMEMBER YOUNG: No.

COUNCILMEMBER GAUTHIER: No.

MS. STEPHENS: So I heard about the partnership with Wistar because of my advisor at Cheyney University. So because there is the biomedical research course at Cheyney University, my advisor said, Unique, I think that you would be a

good fit for this course. Otherwise, I don't think I would have enrolled in it.

And then the full-time position at Wistar will actually be what they did a couple years ago, which is the research apprenticeship. So I heard about that because as I was doing my work in the internship, the person who is over me said, Unique, I think you would be a good fit for the apprenticeship, so then I applied for that as well.

MS. MEAS: As I said earlier, I actually knew about the BTT program through a regular of mine at a cafe. So I learned about this opportunity by chance.

MR. DRISCOLL: Yeah. So for me, my biology professor was very, very clear on making me apply to the BTT program. So that's how I heard about it.

COUNCILMEMBER YOUNG: Thanks. And I only ask that question because it seems like it's something that -- these are opportunities where jobs pay six

figures, but it seems like our communities have no idea that they exist. And for us as a body, we want to make sure that we do our part in making sure that our constituents know, but for me personally, I believe it's on the industry as well to let the communities know, the communities that they're moving into, that these opportunities exist.

And so I just wanted to hear that, because no one said, oh, yeah, I heard about this from the institution, from the place that actually hired me. I found out about this opportunity from them. They came into this part of our community or that part of our community or even come to my school to tell us these opportunities exist. Your schools had to tell you about it.

And I think that if our city is going to continue to grow in this field, I think we need to put a little bit more pressure on some of these institutions, some of these places that are going to be

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doing this hiring and outreach to do a little bit more to reach out to communities that actually need these particular jobs.

So that's the only reason why I asked that, so we can get that on the record.

So I thank you so much for testifying. Again, we are all proud of the things that you are doing. For our communities, we know that we have to see something in order for us to believe that it's real. In looking at you all, your neighbors in your community can see that these jobs exist, this is a real opportunity if we pursue it other than those that we see on TV.

So I appreciate you four sticking with science. I actually wanted to be a doctor growing up, but I had a horrible science teacher, right, and that kind of just killed my dreams, so I just became a lawyer. So I understand the importance of this particular field, and

we have to have people who look like you to continue to push and champion this field, because these jobs are never going away. Science is always evolving, technology is always evolving, and we need folks from our communities to fill those positions.

So, again, I thank you for testifying today.

COUNCILMEMBER SQUILLA: Thank you, Councilmember.

Councilmember Driscoll.

COUNCILMEMBER DRISCOLL: Thank you, Mr. Chairman.

You know, I just wanted to comment of how impressed I am with this young panel. I mean, clearly, you guys are talented, you work hard. Each one of you told your story about how hard it is, but yet you persevered.

So I think, Councilwoman Gauthier and Councilman Young and Councilman Squilla, I think it's fair to say that we have some talent coming to

the City and staying in the City.

Our earlier panel with Dr. Bryan said that 50 percent of his participants are staying right here in the City. So this is boding very, very well for Philadelphia. So I'm excited.

And, Mr. Driscoll, I do like your last name. And just so you know, last week was St. Patrick's Day and your name traces back to County Cork, Ireland.

So thank you all for being here.

COUNCILMEMBER SQUILLA: Thank you, Councilmembers.

And thank you again for testifying. It was really uplifting and it was great to hear. Keep up the great work. Thank you all.

(Thank you.)

COUNCILMEMBER SQUILLA: We would like to call the next panel to testify. Panel 3 is Anne Brooks and Dr. Sharon Willis. Make your way to the table, and we can start, Anne, with you,

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if you just want to state your name when you get up here and then just start proceeding with your testimony.

(Witnesses approached witness table.)

MS. BROOKS: Good afternoon, Councilmembers. My name is Anne Brooks and I am the Senior Vice President of U.S. Commercial at Iovance Biotherapeutics. Thank you for the opportunity to share my thoughts with you today.

Iovance Biotherapeutics aims to be the global leader in innovating, developing, and delivering tumor infiltrating lymphocytes, or TIL, cell therapy for people with cancer. On February 16th, the Food and Drug Administration approved AMTAGVI or Lifileucel suspension for intravenous infusion. AMTAGVI is a tumor-derived autologous T cell immunotherapy indicated for the treatment of adult patients with unresectable or metastatic melanoma

previously treated with a PD-1 blocking antibody, and if BRAF V600 mutation positive, a BRAF inhibitor with or without a MEK inhibitor. This indication is approved under an accelerated approval based on overall response rate and duration of response. Iovance is also conducting TILVANCE-301, a Phase 3 trial to confirm clinical benefit.

Cancer is among the leading causes of death worldwide. In 2023 alone, it is estimated that there will be nearly 8,000 U.S. patient deaths due to melanoma. Our technology seeks to utilize a patient's own immune cells to deliver a personalized approach to fighting cancer. When cancer is detected, the immune system creates cells called tumor infiltrating lymphocytes to locate, attack, and destroy cancer cells in the body. If cancer prevails, TIL are unable to perform their intended function. That's where we come in. At our Iovance cell therapy center in the

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Navy Yard, our employees manufacture novel cancer cell therapies from a process that rejuvenates and multiplies a patient's TIL cells so that they can be returned to the patient to fight cancer.

We are strategically located here in Philadelphia, the birthplace of cell and gene therapies and the home of leading academic institutions active in research. Greater Philadelphia's support for workplace training and development will be essential to allowing the region to capture future growth in cell and gene therapy versus competing areas.

Since breaking ground at the iCTC in 2019, Iovance has expanded from less than 15 employees in Philadelphia to more than 200 in the completed facility today. We currently supply TIL therapies for patients in clinical trials, and as of February 19th, are now manufacturing our first commercial product. We expect significant growth to continue as we expand our manufacturing capacity and

staffing to maintain commercial demand of our first-in-class cell therapy in the U.S. and as we serve additional geographies, types of cancer, and next generation therapies.

Iovance employs a diverse workforce that resembles the Greater Philadelphia community. A variety of backgrounds, as well as a broad range of academic experiences, are represented across the organization, including manufacturing technicians, scientists, and management professionals. We also collaborate with local academic institutions to train and develop the next generation of talent. Our relationship with the Community College of Philadelphia, for example, assists in preparing CCP students for roles in the biopharmaceutical industry.

A group of CCP students recently toured our facilities and participated in an interactive Q&A session to find out more about our

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qualifications for hiring. We have also partnered on a skills initiative with Wistar, the West Philadelphia Skills Initiative, the Chamber of Commerce, and PIDC for the Biomedical Technician Training program.

Philadelphians with at least a high school equivalency are eligible to participate in class and lab-based training followed by a 12-week externship at Iovance. Participants who successfully complete the program are considered for employment at Iovance as associate aseptic manufacturing technicians. We hired ten program graduates from the inaugural cohort last year, and a second class of participants just graduated last Friday. We hope our collaborations with local schools and organizations will serve as a model to build deep, diverse life sciences talent pipelines across Greater Philadelphia and beyond.

We are constantly evaluating

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the right locations to grow our business and have explored expansions across the U.S. as well as globally. We chose to make Philadelphia our manufacturing hub. We encourage the City and the State to advance policies that incentivize new and existing biotech development in the region to cement Philadelphia's position as a leading hub for cell and gene therapy.

For example, we urge the City to consider ways to advance workforce support and technical training that prepare prospective employees for success. With the rise of cell and gene therapy biotech companies in the region and as these companies expand their manufacturing footprints, there will be significant demand for employees with appropriate technical training on precise methodologies for manufacturing novel therapies. Employers need to access a rich candidate pool of capable technicians who have mastered key skills

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and who are focused on technical excellence. For non-degreed workers, skills initiatives such as our Manufacturing Technician program can offer a potential career opportunity in a well-paid role for non-exempt hourly workers.

We'd be happy to be a resource to the Committee as it continues these discussions and evaluates ways the City can promote growth in the biotech industry.

Thank you.

COUNCILMEMBER SQUILLA: Thank you.

Please state your name and then proceed.

DR. WILLIS: Thank you. My name is Dr. Sharon Willis. I am a co-founder and the Vice President of Sales and Customer Relations at Integral Molecular. Thank you so much for the opportunity to speak with you this afternoon.

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Integral Molecular is a biotechnology company that was born and raised in Philadelphia. We are built on innovation and driven by the desire to make a positive impact on the scientific community and on human health.

Our products and services are used to identify therapeutic molecules for diseases such as cancer. The molecules we discover can be used as critical building blocks for cell therapies.

Over 20 years ago, we were a group of scientists who met at the University of Pennsylvania. We started Integral Molecular in the Science Center's incubator space. We were two people, two desks, and one lab bench. Since then, we have grown and stayed in Philadelphia and now have over 100 employees. Last year we moved into our beautiful new space at One uCity Square in University City. Phase 2 of our expansion is underway. With our

expansion comes hiring. We expect to double our workforce in the next five years.

For many years, we focused on research and development, relying on the contributions of scientists with bachelor's and advanced degrees. We're now transitioning to a production-heavy phase with SOP-driven work. These roles are well suited to training and certifications that do not require traditional four-year degrees.

Two entry-level roles I would like to highlight are lab management and our research technician. Our lab management team provides the foundation for our lab work. The team makes solutions, keeps supplies stocked, and keeps critical equipment functioning throughout the lab.

Our research technicians are responsible for following well-documented SOPs to produce the products that we sell and carry out the services we provide.

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These roles also involve working with robotics for precision liquid handling where employees transfer very small quantities of liquid, often smaller than a drop.

In this environment, things occur at a molecular level and a lot of processes are essentially invisible. For example, a tube of DNA dissolved in water looks pretty much like a tube of water. Attention to detail is critical to ensure that steps are precisely followed and irregularities are seen and reported. It's not necessarily obvious if a step is missed. It's not like being in the kitchen where if you're not sure if you added salt instead of sugar, you can taste the batter. You can't do that in a lab, so attention to detail is really, really critical. Math is also a very important skill for calculations to make solutions and analyze and graph data.

In our talent searches, we train and hire Drexel co-op students and

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attend career fairs at local institutions and post on online job boards. In addition, we continue to rely on the talent pool coming from the training programs run by The Wistar Institute and Community College of Philadelphia. Our need, in addition to our fellow companies in Philadelphia, is increasing. We need to increase these programs. Workforce development programs are a great way for Philadelphians to get training for jobs that provide family-supporting wages. Workforce training providers are doing a good job of finding and reaching out to people who might be interested in their programs.

While the workforce development programs for adult learners are amazing, the pipeline also must start before that. We can teach our trainees to follow one of our protocols. For example, weigh out five grams of sodium chloride, add 100 milliliters of water and a magnetic stir bar and stir the solution for three

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minutes.

What we can't teach is how not to be anxious about the calculations that need -- that are needed to make that solution. To be successful in our environment, the fundamentals of math and communication are so important, and that really begins in grade school and continues through middle and high school.

We're very proud to be part of the thriving biotech community in Philadelphia whose contributions to human health are amazing. There is a diversity of jobs in this environment, and the talent coming out of the technical programs is fantastic, but there is a need to support the growth of this to really support the growth of our biotech industry, and that talent pipeline needs to start with all children getting a strong educational foundation in the K through 12 years.

Thank you.

COUNCILMEMBER SQUILLA: Thank

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you so much for your testimony.

The Chair recognizes Councilmember Gauthier.

COUNCILMEMBER GAUTHIER: Thank you, Mr. Chair.

And thanks to both of you for your testimony.

I wanted to congratulate Iovance on the recent FDA approval. That's amazing and follows Philadelphia's history, right, and trailblazing in this area. And I want to congratulate both of you on the growth of your companies.

I know that both of your companies have partnered with local workforce providers to develop and -- define and develop talent. Can you share the critical elements of a successful workforce partnership from your perspective as an employer. What makes those programs useful and valuable to you?

MS. BROOKS: This is Anne Brooks.

Yeah. I think one of the things that is really critical for these partnerships is just good collaboration and communication between the academic institutions as well as with Iovance. And so when we outline sort of the skills that we're looking for from the students, they're able to really help curate that curricula.

We couldn't be more proud of our externship graduates. You know, obviously we're very proud of V and the other graduates that are part of the program.

So I think that collaboration and communication is very critical.

DR. WILLIS: This is Sharon Willis.

I agree. We're brought in early in the process to help review what the students are learning and suggest lab techniques that are critical for success at our site. So I think that communication and collaboration.

And one thing I always bring up also is the soft skills, how can we help these students who maybe didn't have a chance to develop those soft skills in their K through 12 training, how can we add that to the programs, because communication is just so critical.

It's okay, I always say, it's okay if you can't come to work one day, as long as you communicate that, but not showing up to work and not letting your supervisor know that you're not coming to work is not okay.

So how can we start to incorporate that into training and even before they get to these programs so that they are comfortable in a workplace and are comfortable communicating challenges that they have with maybe coming to work or support that they need during work or things that they don't understand so that we can help them become the best employees that they possibly can be.

COUNCILMEMBER GAUTHIER: Thank

you.

Thank you, Mr. Chair.

COUNCILMEMBER SQUILLA: Thank you.

Councilmember Young.

COUNCILMEMBER YOUNG: Thank you.

So from my understanding, this is my own anecdotal thoughts, that essentially our School District isn't educating our students enough to fit your needs. That's basically what I just heard, right? So for me, I think that's an issue, because if you have the jobs -- if you are providing the jobs of the future, we have to make sure that our students are well equipped for those jobs.

One just suggestion or comment -- question I have, rather, is because these jobs, many don't require more than just a high school diploma, what opportunities are available or what opportunities do you provide for current

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high school students so they can get that exposure for the things that you need them to do in the future?

DR. WILLIS: We have a number of summer internship opportunities. So we do work with Firsthand at the Science Center and their high school program, and we have had their high school students tour our labs and we did have a high school intern last summer through that program. I know Wistar has a high school program.

So we are actively working with the organizations that we know of in the City that have high school programs so that we can provide hands-on activities and experiences for those students.

COUNCILMEMBER YOUNG: And I guess this question is for Ms. Brooks. Your training program, you said you just hired ten from that cohort. From those who you do not hire, are those skills or abilities that they learn at that program, how transferable are they to

another science facility?

MS. BROOKS: Yeah. I think some of the skills are transferable. Other skills are more bespoke to the Iovance processes. So I think it's a nice blend of -- we want to obviously train our employees to help us with our very specific technology, but at the end of the day, it is Biomedical Manufacturing Technician program, so teaching aseptic technique, that is absolutely transferable to any other cell and gene therapy or life sciences company. So I think it's some of both.

COUNCILMEMBER YOUNG: Thank you.

Thank you, Mr. Chair.

COUNCILMEMBER SQUILLA: Thank you. Thank you, Councilmember.

And thank you so much for your testimony. Much appreciated.

Mr. McMonagle, can you please read the next panel to testify.

THE CLERK: Can we please have

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Sam Woods Thomas, Dr. Linda Powell, and H. Patrick Clancy.

(Witnesses approached witness table.)

COUNCILMEMBER SQUILLA: Thank you. I guess we'll start with Sam Woods Thomas. Just state your name for the record and you can proceed with your testimony.

MR. THOMAS: Good afternoon, Chairman Squilla and members of the Commerce and Economic Development Committee. My name is Sam Woods Thomas, Senior Director of Business Development for the Philadelphia Department of Commerce. I am testifying today on behalf of my colleague, Dr. Rebecca Grant, who is the Director of Life Sciences and Biotechnology.

I'm here to testify on Resolution No. 230530 authorizing a hearing on Philadelphia's capacity to prepare individuals of all educational backgrounds for careers in the life

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sciences industry, particularly the cell and gene therapy subsector. As we all know, this is a rapidly expanding industry.

Philadelphia has the largest concentration of life science companies in the region, thanks to our healthcare systems and institutions. This growth presents an enduring career pipeline with immediate job opportunities across skill levels and steady job creation looking forward. There are a range of non-degree opportunities such as aseptic technician, biomanufacturing, quality assurance, and quality control. Training more workers will drive the creation attraction and expansion of companies in Philadelphia. In turn, those companies will create more jobs and so on.

Several years ago, Commerce identified life sciences as a priority industry. Around the same time, Spark Therapeutics was expanding in Philadelphia. Among other early

partners, we quickly recognized this sector's potential.

For our 2018 real estate study, we learned that Philadelphia had many companies, but commercial lab real estate was about 98 percent occupied, meaning the demand was high, but we could not accommodate it. Since then, much more lab real estate has been built, and we now see an increased demand for workforce. We recognized the gap and immediately catalyzed partnerships to support the increased workforce demand.

Our work is focused on attraction, retention, technical assistance, policy, and partnerships. Building relationships is paramount to this work. We regularly convene and connect employers to workforce trainers. We're happy to report some recent successes. This past year, Commerce funded two workforce programs focused on life science jobs, Community College of Philadelphia's Aseptic Technician

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Training and the University City Science Center's Building Understanding of Lab Basics, BULB.

Commerce launched a life science workforce training solutions convening, which has forged important relationships and removed silos. Commerce collected B.Labs in Schuylkill Yards and the School District of Philadelphia, Dobbins CTE High School, to create an ongoing industry exposure program starting in 2023.

Our region received a Good Jobs Challenge reward and a Regional Tech Hub designated. These are a testament to our regional cooperation and the importance of Philadelphia's diversity. These success stories are encouraging but not enough. So how do we meet the moment? We recommend the following:

First, Philadelphia must not only prioritize STEM in education, but also focus on adult learners. We should further invest in cohesive engagement and

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marketing strategies that involve both school-age youth and adults in our community.

Second, this industry is expensive. Training organizations need more funding to scale existing programs to meet the current need. Likewise, laboratory training space and hiring skilled trainers are costly endeavors. We must consider new strategies and funding to create more training opportunities and new training facilities.

Lastly, public-private partnerships are essential. We must partner with industry to create space and scale programs. Two great examples of this are the partnerships in Iovance, Wistar, and the West Philadelphia Skills Initiative and the partnership between WuXi AppTec, Integral Molecular, and CCP.

I want to thank Councilwoman Gauthier for her leadership on this issue. Today I'm joined by my colleague

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Gianna Grossman, who is a Senior Director of Workforce Development. We're happy to take any questions.

COUNCILMEMBER SQUILLA: Thank you. Thank you for your testimony.

Dr. Linda Powell.

DR. SHAH: So I'll be going first. My name is Dr. Vishal Shah and I am the Dean of Math, Science and Health Careers at Community College of Philadelphia. Good afternoon, members of the Council, and thank you for the opportunity to share our experience in preparing individuals from diverse backgrounds for careers in larger life sciences ecosystem in Philadelphia.

I'll be providing an overview of the training opportunities in cell and gene therapy area, and Dr. Powell will be providing a large-scale picture of how CCP is making an impact.

For cell and gene therapy subsector to grow, we will need workforce involved in research and development and

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for product delivery, be it in research labs, manufacturing, testing facilities or in hospitals. The journey for the majority of those employed in the subsector starts with the classes at the undergraduate level through our up-to-date curriculum that is directly tied to the workforce needs and transferred to four-year institutions. The diGly programs in biology, chemistry, engineering or mathematics provides many Philadelphians with the only viable part to obtain a degree, and for some, the last available option.

Graduating students either enter directly into cell and gene therapy industry or they graduate with a bachelor's degree and then enter into cell and gene therapy.

Community College of Philadelphia is a minority-serving institution, a predominantly Black institution and an emerging Hispanic-serving institution that

provides City residents access to high quality, low cost option for degree programs and workforce training.

We are proud to play an important role in providing the part for students of color to careers in cell and gene therapy industries. Last year, the College launched a new program to provide training for entry-level positions in cell and gene therapy industries. The program, probably one of the most unique in the country, lowered the entry requirements to a short essay on why the students are interested in the program and a reference letter attesting their aptitude and skill sets. We removed the requirement for high school degree diploma and any mathematics entrance test.

The underlying philosophy behind our approach was to increase access to impart knowledge and skill sets to the students no matter the level of their proficiency. The curriculum was

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designed in close collaboration with our industrial partners, WuXi and Integral Molecular, and meets our students where they are.

The enrolled students in this new program included taxi drivers, traditional students, and citizens working in retail sectors and were from all age groups, teenagers to grandparents.

I am pleased to state that many of our graduating students are now working at WuXi and Integral Molecular in Philadelphia as aseptic technicians, manufacturing associates, and other similar roles. We thank the City Department of Commerce for the funding of the training program.

Members of the Council, the Community College of Philadelphia has the expertise and the facilities needed for training the workforce for the future cell and gene therapy jobs. We look forward to continuous collaboration with

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the agencies, organizations, and industries across the City and further the growth.

I would like to now turn over to Dr. Powell, the Special Assistant to Provost for STEM Outreach and Engagement, to provide an overview of CCP's training impact in the larger life sciences ecosystem.

Thank you.

DR. POWELL: Good afternoon, Councilmembers.

The growing life science industry in Philadelphia not only requires workers at the bench, be it in product development or clinical trial stages, we also need personnel to get products out of those labs and to those in need.

Community College of Philadelphia has a longstanding history of producing phlebotomists, medical lab technologists, nurses, and other allied health professionals. People in these

positions are needed to deliver treatments to those receiving the products coming out of the growing research sector of this city. It also involves those supporting regulatory requirements documenting specific protocols that are to be followed besides those personnel in direct patient-facing roles.

The faculty in the Biology Department have just hosted the Second Annual Clinical Research Conference at Community College of Philadelphia's main campus last week. This effort brought together clinical research leadership from the Greater Philadelphia region. They informed our students about opportunities in this sector and had a job fair providing internships and job placements in their respective organizations.

The College has also been working on a pipeline program to increase students coming out of the 6th to 8th

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grades, increase their knowledge and understanding of STEM. We have a junior STEM academy housed at our West Regional Campus that does outreach covering a variety of STEM topics. Hundreds of Philadelphia students have participated in this programming.

The life science industry has a growing realization that some of its needs can be met by individuals pursuing associate's degrees. Efforts in both our credit and non-credit course offerings are underway to meet Philadelphia's life science personnel needs in our hospital research and industry spaces. The College has the facilities and the personnel with the required expertise to train Philadelphians and train these jobs.

In my role as Board Chair of Greater Philadelphia Health Action Inc., as well as in my role with Community College of Philadelphia, I see former students excelling in the life sciences.

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We are indeed the path to possibilities.

Thank you for this opportunity to speak today.

COUNCILMEMBER SQUILLA: Thank you.

H. Patrick Clancy.

MR. CLANCY: So last but not least. Thank you, Councilman, Councilwoman, and Councilman again. Thank you very much for bringing this to light, and I say that because as President and CEO of Philadelphia Works, our job is to really look at the state and federal investments that the City gets and how do we maximize our return, right? How do we put money into programs that are really high quality, that are outcome based, and that there's a future.

And just as another aside, I am a very proud Board member of the Community College of Philadelphia. I sit a lot on their workforce development stuff. So these conversations happen pretty frequently among Board members,

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because I think what we're trying to figure out as a city is how do we do two things - one, get in front of the curve with -- you heard a lot today about CTE and how that education has to start at an earlier age, but then also how do we transition adults who may be looking for that opportunity to move into life sciences.

One of the things that we did most recently is, we funded the West Philadelphia Skills Initiative to start this brand new collaborative. You may have heard it last week. It was the launch of the Keystone Life Science Collaborative, first one in its -- first type of sector-based strategy in the region and in the state. Because for us, it's not always about the data. It's about the employers, right, who is hiring, what are their needs. So how do we match up data with employer engagement.

It is the cooperative nature of

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everybody at the hearing today and the panel that's after us about how do we build this system so it's long term, right, and how do we make sure that it's not just something that is open to some but open to all.

So I would suggest that as we continue to hear other panelists, I would leave you with a few things. One is investing in better literacy training as a whole in our city. We have to get math and reading up. The stats of adults who are not as literate as they need to be is alarming, so we need to work on that.

Secondly, we have to have career exposure. We have to have better strategies for both young people and people who we're not aware of. I think I heard it earlier from the Councilman that you only -- you see what you do, right? If you don't visualize it, it's hard to find yourself there.

And then, thirdly, it really is about maximizing funding and also

collaboration, right? There's a lot of good programs going on in our city, and I think part of it is is how do we work with each other and maximize its output.

So I look forward to any questions you may have, but once again, thank you very much for the opportunity to testify today.

COUNCILMEMBER SQUILLA: Thank you.

Thank you all for testifying. Appreciate your testimony.

The Chair recognizes Councilmember Gauthier.

COUNCILMEMBER GAUTHIER: Thank you, Mr. Chair.

First, I want to thank all of you for being here today but also for your work in this area.

Mr. Woods Thomas, thanks to you and Dr. Grant for doing the very important convening work to move this workforce development effort forward. We really appreciate you.

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And thank you so much to Dr. Vishal and Dr. Powell for everything that you're doing at CCP. CCP is such a critical partner in this effort, and I especially appreciated how you're breaking down barriers, right, to meet our residents where they are.

I quickly wanted to hear a little bit more about how many students have flowed through your program, how much do you think you can grow, and what support do you need from the City? And that's for CCP.

DR. SHAH: So we had two cohorts, graduates through the program. A total of 21 students graduated. I know Sharon was here. They hired a graduate and WuXi hired eight students already. So nine students have already found employment.

COUNCILMEMBER GAUTHIER: That's great.

DR. SHAH: Five students are going through the interview process, and

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others have delayed, that they wanted the spring semester to be over and then look for a job. So we hope to reach around 70 to 80 percent employment by the time everybody goes through the interview process.

The two big lessons we learned to the process, as Sharon rightly said, talking to the industry early matters. Like the jobs they are going to have is what we are training them for, and training them on the curriculum of the past does not help. So as we ran through the process is when we realized it's okay for the students not to have the skills, like we were talking about, the math skills or the English skills, but how do we train them. It has to be a time when we start saying, you don't have the skills, so you can't enter into the field. No. We will provide the training, and the key support that we need is the students are taking time off from the work they do for the training,

and the support the students need for them to go through the training program is very critical, and to add a barrier of cost of the training program makes a lot of this training program prohibitive.

So supporting the students is one of the most critical things that I observed would make Philadelphia different.

COUNCILMEMBER GAUTHIER: Thank you.

Dr. Powell.

DR. POWELL: I would have two big recommendations. Some of our panelists have shown their language use is very technical, but we need -- the students need to see them and they need to come to the places where students are first, and then once the students have gone through some initial training, get to these facilities so the students can see this is a place that I can fit in. And it's also helpful if there are people who look like them and sound like them

that are meeting them when they're coming to these places.

COUNCILMEMBER GAUTHIER: Thank you so much.

And, Mr. Clancy, first, thank you so much for being here. I'm being told that you're fresh off of a plane from like a national convening for workforce. Somebody told me that you had your suitcase and stuff.

MR. CLANCY: I did. It's over there. I would never miss this opportunity. I live for this really.

COUNCILMEMBER GAUTHIER: Yeah.

MR. CLANCY: Plus I did go to high school with Councilman Squilla. He's much smarter.

COUNCILMEMBER GAUTHIER: He's a very smart guy.

We appreciate you being here. So I wanted to ask you, since you're just back from this convening, do you have a sense of how does our workforce board's participation in the growth of this

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sector and workforce development opportunities compare to what other work boards are doing in their involvement and are there things that we can learn and implement from what other regions are doing?

MR. CLANCY: That's a really good question, so -- not to brag, but I will a little bit. I mean, I really believe we are one of the top workforce boards in the country and mainly because we spend a lot of time at the U.S. Congress of Mayors Workforce Committee, which is a group of our colleagues from across the country.

So I would say we were the early investors in biomedical technician training at Wistar. I've been doing this work about 30 years. We were investing with The Wistar Institute probably about ten years ago. And I do think we also worked along with the Greater Philadelphia Chamber of Commerce on developing a life science initiative two

years ago.

So I really believe the data showed us that we needed to be in this space, and I think we continue to grow.

I would say to you we do check in with our colleagues from Boston, who sometimes nudge us out a little bit as far as their activity, but I do think it's about how do we get the basis of that early learning and early exposure done. And I think if we -- if there's anything I would suggest we really focus in on is very much like the doctor said, like how do we give exposure to individuals to see the workplace, right, to see what it really is to be in a lab on your feet doing the type of work that they're doing.

But I would suggest to you we have a great working relationship with the Commerce Department. This is -- I think there's all hands on deck when it comes to figuring out not just life science but, you know, all the industries

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that are growing in our city.

COUNCILMEMBER GAUTHIER: Okay. Thank you. And it's okay to brag. The Deputy Secretary told us we have to unlearn some of our Quaker ways in terms of modesty, so we're being a little more boastful.

I wanted to talk next about the need for training facilities. We've heard a lot about that today. So we've heard about this need for facilities, but we also are hearing that they are extremely expensive, hard to keep updated with the latest scientific equipment. So I'd like for anybody who wants to weigh in to share your perspectives on, A, the need for additional training space; B, what would it take to create adequate training space and who should lead on that, and if we build the space, what process should we put in place to ensure that it stays up to date.

MR. CLANCY: So I'll start and then hand off.

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So I would say to you as a Board of Trustee for Community College, this is a very active topic. We had a chance to work with Econsult on this strategy, like what would it take if we really wanted to embark upon another facility and another place of learning.

So we're in the beginning stages of that, but I would suggest that my colleagues from the Community College could probably answer a little bit better than me.

DR. POWELL: As someone who spent quite a bit of time building that space, you need to talk to the people who are going to use the space besides just building it independently. And in the laboratory spaces that are heavily used, and we have a lot of people who come through and look at the quality of the labs at Community College of Philadelphia, is because the faculty who came out of industry gave input into the spaces so that they work academically but

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they also meet industry needs. So that combination is critical.

DR. SHAH: I think one of the most important things as we look at the life science cell and gene therapy both is we double up the space, but it's not the space, it's what's inside the space that's critical, because the accoutrements and the tools that we would say, okay, let's train the students on X, Y, and Z instrument, that will be outdated in two years.

So while we invest one time to set up a state-of-the-art facility, the key is how to be sustainable and remain state of the art. That plays a key role. And one of the good examples is, there were times when we used to use micro-pipettes in training high school students, but in most of the advanced labs, they all use robotics. Robotics are used for all the pipetting stuff.

So we need to make sure we are training in the state-of-the-art

instrument and making sure we remain ahead of all the things, and as was said earlier, that's where Boston and North Carolina are one step ahead of Philadelphia. They have the labs that are constantly upgraded through the support from the state and the region.

MR. CLANCY: So I would just add, if we don't do it, we're going to lose, right? It's either we're in this game to win it or we're going to fall behind. So I don't think -- we know that this is great opportunities for our residents. We know that the businesses are really enjoying and liking the space or the region. So if we don't invest, I'm afraid to say that we're going to fall behind.

COUNCILMEMBER GAUTHIER: But you all are in agreement that the space doesn't exist today and that we need more training facility space?

DR. SHAH: Correct.

MR. CLANCY: Yes.

COUNCILMEMBER GAUTHIER: And do you have any ideas on what it would take to create adequate space, how much funding that would take, the type of partnerships that would demand, and who should lead on creating the training facility space?

MR. CLANCY: Where is Dr. Generals when you need him?

(Simultaneous crosstalk.)

MR. CLANCY: I would say that, one, partnerships are critical, right? We can't do this without everybody that's behind us or part of the fabric of life science already. So anything that I think gets built really needs to be totally collaborative and totally understand like what do we have already and what do we really need and then how do we find ways that we all either share in it or invest in it.

I would suggest to you if you're looking at a new building, then you're looking around the $30 million

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range.

COUNCILMEMBER GAUTHIER: Okay. Okay.

MR. CLANCY: At least that's my gut.

COUNCILMEMBER GAUTHIER: Okay. Thank you.

Did anybody else want to weigh in on that?

MR. CLANCY: Everybody is afraid of Dr. Generals, aren't you? See, I don't really work for him. I'm on his Board.

MR. THOMAS: Sam Thomas from Commerce again.

Our office works in attracting and retaining businesses in the biotech sector. Dr. Grant leads that effort forward.

It's imperative when we look at what brings life science companies to a city, I think there's really three things that they look at, and the first thing is the strength of the ecosystem, which we

have. We're very good at life sciences. Getting past our Quaker roots, we're really good at life sciences.

The second thing is real estate, which we addressed. We had a lack of that. We built it.

And the third thing that companies ask us when they come to us is how quickly can we fill these labs with qualified workers. So by doing this, by really engaging with this, we are going to be able to answer all three of those questions for companies, really making Philadelphia, I believe, the intuitive choice.

COUNCILMEMBER GAUTHIER: Thank you. So we definitely need to make this investment if we're going to seize this opportunity.

And, Mr. Clancy, you say in gest, but it sounds like you're halfway serious about CCP being like a great partner to be at the middle of this.

MR. CLANCY: Yeah. I mean, I

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do joke a little bit. But this is serious. And I would agree with you. Having a chance to be on the Board for seven years now at the Community College, like they're deeply invested in finding ways to be as creative and as flexible and getting people back to work. So I would suggest it's not just their life science strategy, but it's their advanced manufacturing strategy, the nursing strategy. But like they really understand the value and what it means to our communities, because we have multiple campuses too, right? We have a Northwest campus, we have a West campus, which is beautiful, as you well know in your district.

COUNCILMEMBER GAUTHIER: Absolutely.

MR. CLANCY: Then of course we have the Center City jewel.

So for us, it's about how do we build what's already here and enhance it, along with our other partners. We have

some great life science partners in the City as well.

COUNCILMEMBER GAUTHIER: Thank you.

Thank you, Mr. Chair.

COUNCILMEMBER SQUILLA: Thank you.

Councilmember Young.

COUNCILMEMBER YOUNG: Thank you.

So we all are talking about a conversation of investment, investment, but my question for you all is, who should make the investment? Where does this investment come from? Should it be the City? Should it be the industry? Should it be state, philanthropic? Like who should make these investments and I guess what does that look like monetarily, right, to get the City where we need it to be to fill the capacity that we have?

MR. CLANCY: So I'll start and then pass it off again.

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Historically these types of investments have been multi-pronged. So the state has invested what they call RACP funds. Then there's other private partners and then there's the Community College fundraising as well. So, you know, there is already a template in place for the West Philadelphia center. I don't have all the specifics, but my gut is it's three to four different types of, you know, utilizing either grant funding from the Commonwealth or other funding, whether it be private or other philanthropic funds.

But you're right, I think what the College doesn't want to do is build it and hopes people come or build it and charge the tuition so high that no one can come. So I think it's all about how do we really analyze the relevancy of it all and see if it's the right investment.

COUNCILMEMBER YOUNG: Thank you.

Another question. I guess this

is probably more geared toward the Commerce Department. But have there been any impediments to our land use and zoning code for these types of places to come to the City?

MR. THOMAS: Not major impediments. There are certain things that Dr. Grant and myself are working on to make it easier to do this, and we can sort of get you that information on what those are.

COUNCILMEMBER YOUNG: Thank you.

And one more question. I know we're all talking about space and training programs, but some schools in our district do have some CTE programs. Do you think that this is an area where students can participate in this arena as a CTE program? I'm just saying that particularly because folks saying that space is needed. I have a school in my district, Dobbins, that has plenty of space that is empty for -- because

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programs have essentially left the School District.

So do you feel -- can that be a space where students can get this type of exposure to the industry?

MR. THOMAS: I'm going to let my colleague Gianna Grossman take that one.

MS. GROSSMAN: Hello. Gianna Grossman, Senior Director of Workforce and Commerce.

And, yes, we've been working with Dobbins and Roxborough specifically. Those are the two schools that have the CTE biotech program. We have people here today from B+Labs that just did a program this fall with Dobbins, and then for CTE Month, which is February, we just had an exposure awareness event for life sciences, bringing in the students in all of the biotech and life science CTE programs. So that is from Dobbins, Roxborough, and then Saul students came to quorum University City Science Center

to really see what other types of opportunities were out there, from training programs to employers, to really just get that exposure and awareness so that students can see themselves in these roles, but we've been working with the District specifically to build out and bring in industry engagement to the biotechnology CTE program, and because of that, there's been growth in the program. I think they're hoping to add a third school next year.

So I think that as we've gotten industry involved, there's a lot more opportunity, and they really want to support these CTE students. And I think two people here are going to talk about that a little bit later, but it's been really great to work with Dobbins specifically. The students are very interested in how to actually realize the types of roles they can go into post-graduation that they don't necessarily need a degree for.

COUNCILMEMBER YOUNG: Thank you.

And is there data on, I guess, the number of students who participate in these CTE programs who go directly into the workforce in the biotech field?

MS. GROSSMAN: Yeah. We can get the District what they have. I think it's hard to track the data once students leave, especially if they go into the field a few years after, but we can follow up with the School District and send that over to you.

COUNCILMEMBER YOUNG: Thank you.

Thank you, Mr. Chair.

COUNCILMEMBER SQUILLA: Thank you.

Councilmember Gauthier.

COUNCILMEMBER GAUTHIER: Thank you.

I wanted to respond to Councilmember Young's question about difficulties in development. I mean, you

know, the various firms would have to describe that themselves. However, one thing I do think we should work on -- because I've seen this sort of transforming my district up and down Market Street and in different areas. We work to try to negotiate community benefit agreements that sort of bake in some of these workforce and job goals that we have, but I think as a city, we should do better at that. As the physical landscape continues to change, as the life sciences sector grows, I think that we do need to bake in more of these job commitments. So it would be something I'd love to talk about more with the Committee.

COUNCILMEMBER YOUNG: Thank you.

COUNCILMEMBER SQUILLA: Thank you so much, and thank you all for your testimony. Much appreciated.

Mr. McMonagle, can you please read the next panel to testify.

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THE CLERK: Yes. Can we please have Dr. Tia Lyles-Williams, Katie Nash, Dr. Kristy Shuda McGuire, and also waiting in the wings, Dr. Anthony Green, please.

(Witnesses approached witness table.)

COUNCILMEMBER SQUILLA: Dr. Tia Lyles-Williams, if you want to start first. Just state your name for the record and you can proceed with your testimony.

DR. LYLES-WILLIAMS: Yes. I'm Dr. Tia Lyles-Williams.

All right. So just a little bit about myself. I'm the first African American queer woman to own a biomanufacturing manufacturing company 68 years after the first African American man, Dr. Percy Lavon Julian with his company, Julian Laboratories, in Chicago, Illinois.

I received my Bachelor's of Science in Biology from Howard

University, Master of Science in Entertainment Business from Full Sail University, a Master in Regulatory Science from University Southern California, and Honorary Doctor in the Sciences from the Sidney Kimmel Medical College at Thomas Jefferson University.

I've dedicated my career to this industry via bioprocessing development, building large-scale bioprocessing facilities, developed training and leading teams in commercialized and proprietary biological assets being a goal of regulatory affairs.

I've been working in the biotechnology/biopharma industry for a little over 23 years, including formerly interning at the National Institutes of Health as well as a former contractor at Walter Reed Army Institute of Research. My former employers include Human Genome Sciences, which is now GSK, AMGEN Incorporated, Baxter Bioscience, which is

now Takeda, Avid Bioservices, Lonza Pharma and Biotech, and most recently my last employer was Jazz Pharmaceuticals here in Philadelphia.

I'm a three-time life science startup founder of LucasPye BIO, a contract development manufacturing organization, founders fee of HelaPlex, the first commercial life science accelerator program for underserved life science startup founders, and founder and CEO of Jackson Taylor Therapeutics, a genomic AI/ML therapeutic drug R&D firm.

In October '22, I represented LucasPye BIO as well as the City of Philadelphia as a panel speaker at the White House discussing President Biden's bioeconomy initiative, including the role within the U.S. biotech industry.

For background, LucasPye BIO is a subsidiary of my financial holding company, Goffman Bougard, and a member of a joint venture with a minority-owned real estate development firm named

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Urbane, and our joint venture is entitled Southwest Biocare. Together, we are developing a life science park in Southwest Philadelphia on 61st and Lindbergh.

The City of Philadelphia as well as the State of Pennsylvania has been explicitly supportive of Southwest Biocare. More specifically, Councilwoman Jamie Gauthier and Councilmember Andrew Goodman were instrumental in working with my team to secure and maintain our land reservation via the Philadelphia Housing Development Corporation for the past three years.

Councilwoman Jamie Gauthier and Councilmember Andrew Goodman were also instrumental in supporting our team in working with PA Democratic House Speaker Joanna McClinton, Senator Anthony H. Williams, and former Governor Tom Wolf to help us secure a 2.5 RACP grant. With their collective support, we were able to secure the funding on our first attempt

via our first application.

Recently, Councilwoman Jamie Gauthier and Councilmember Andrew Goodman were also instrumental in supporting my team to gain permission from PHDC to allow us to apply and accept a grant from PIDC for environmental monitoring Phase 1 testing operations at that Lindbergh site. More specifically, Councilmember Andrew Goodman attended every virtual meeting with PHDC and PIDC to advocate on our behalf as Southwest Biocare.

When Governor Shapiro visited University City and took a tour of University City Science Center, his team members contacted Councilwoman Jamie Gauthier to ensure that I was present for the tour, including being able to meet with his cabinet members to discuss our life science park. We're participating in ongoing discussions concerning how the state government can help best support our work and bring our life science park to market, and we greatly appreciate

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Governor Shapiro's luminous budgetary, which you heard earlier today, $3 million designated for the PA Life Science Greenhouse Initiative and his $500 million PA sites proposal, which includes a $20 million budget to support entrepreneurs who have historically lacked access to venture capital funding, and 2.2 million has been budgeted for workforce development.

The City of Philadelphia recently received designation as a U.S. EDA Tech Hub for precision medicine entitled PROPEL. HelaPlex as well as my non-profit, Black-Latinx Institutes of Health, known as BLIH, are two of over 20 co-applicants that applied for the U.S. EDA Tech Hub opportunity in partnership with primary applicant, Ben Franklin Tech Partners of Southeastern Pennsylvania.

Ms. Mariya Khandros, Chief of Staff for Councilwoman Gauthier's office, as well as team members of PA Democratic House Speaker Joanna McClinton and

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Governor Shapiro have attended all of our internal meetings in preparation for us to apply to Phase 2 of that grant, which includes a $45 million budget to support the Greater Philadelphia region bio startup ecosystem, including our development of biotech workforce development ecosystem. We submitted that grant on the 29th of February of this year.

The support of Ms. Khandros along with Councilwoman Gauthier and the financial support of Life Science Cares Philadelphia has also helped us to kick off BLIH's programming for bioworks in partnership with Urban Affairs Coalition. Life Science Cares, the non-profit partner of U.S. Big Pharma, activates the financial and human capital of life science industries and partners with non-profits to disrupt the cycle of poverty and inequality in our communities.

With over 375,000 Philadelphia

residents living below the poverty line, Life Science Cares Philadelphia is committed to help provide access to basic needs, access to education, and access to opportunity. More specifically, Life Science Cares Philadelphia issued BLIH's first grant of 25,000 to help implement our community engagement program that will support the recruitment of our fellow underserved community members for employment training via bioworks, including making a commitment to galvanize Greater Philadelphia's bio-pharma employees to hire our trainees post-graduation from bioworks.

Last, but not least, Ms. Khandros has been attending our biotech workforce development meetings to support the collaborative efforts for developing our biotech workforce development ecosystem under the leadership of Dr. Rebecca L. Grant, Director of Life Sciences and Biotechnology at the Department of

Commerce for the City of Philadelphia.

In summary, the City of Philadelphia, more specifically Councilwoman Jamie Gauthier and her team, have been explicitly supporting the Philadelphia life science biotech ecosystem, but Councilwoman Gauthier and her team cannot do it alone. We as a key driver for the City of Philadelphia need to support all of our members of the local government via their respective roles. And although our local government will set a precedent via their partnership, this is a traditional pathway for developing a successful life science ecosystem in cities like Boston, Massachusetts, RTP North Carolina, and San Francisco, California.

Now is our time in the City of Philadelphia to build upon our success via Spark and Iovance and all the other companies here and create a blueprint for an equitable life science ecosystem, one that not only promotes inclusivity and

diversity for workforce development, but one that promotes equity for our workforce and support our life science startups and small business supply chain vendors.

In order to promote equitable financial prosperity via life science and biotech in Philadelphia, leaders within our local government must require equity via lawful regulation on behalf of its future financial and commercial real estate initiatives for non-profits that train our workforce and Big Pharma that will offer employment to sustain our local workforce. This simple act would allow the City of Philadelphia to jump from No. 6 to No. 1 seed in the U.S. biotech market within the next five years.

Here's my call to action: Let's bet on Philly to be No. 1 in five years by building an equitable biotech workforce to support a sustainable economy and access to prosperity for all.

Thank you.

COUNCILMEMBER SQUILLA: Thank you so much for your testimony.

Councilmember Gauthier.

COUNCILMEMBER GAUTHIER: Thank you, Mr. Chair.

I just wanted to interject quickly first to say thank you so much, Tia, for being here. I and my entire team are so proud to be working with you and so excited that you're going to be growing your company in the Third District.

I did want to note for the record that Andrew Goodman is our Director of Equitable Development. He's not a Councilmember. However, sometimes I think Andrew is more popular than I am, so I definitely understand. I definitely understand the promotion for sure. But thank you so much for testifying.

COUNCILMEMBER SQUILLA: Thank you so much.

Kate, Ms. Nash, if you want to

state your name for the record and then proceed.

MS. NASH: Good afternoon, Councilmembers. My name is Katie Nash and I serve as the Senior Director of External Affairs at the University City Science Center. I want to thank Chair Squilla and the members of the Committee for allowing me to provide testimony today on this important topic.

In particular, the Science Center thanks Councilmember Gauthier for leadership on this topic and for working to engage all stakeholders in the conversation with this hearing today and the discussions going forward.

The Science Center is a 60-year-old non-profit that operates at the intersection of startups, life sciences, and community to help bright ideas turn into the thriving businesses that create inclusive economic growth. Since the 1960s, the Science Center has identified and filled gaps in the

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region's innovation ecosystem, including talent gaps.

I don't need to tell you the opportunity the growth of the life sciences industry holds for Philadelphia. My colleagues' testimony today has clearly outlined with stories and numbers how many jobs there will be at all levels of educational attainment.

The Science Center sees three pivotal areas that can drive increased employment for Philadelphians from all educational backgrounds. First is to provide increased support for young adults after high school as they explore the many existing paths into life sciences, whether through further education, training or employment.

Second is to better connect Philadelphians who are seeking a life sciences career path to the training, education or job that is their best next step, like we have done with our adult workforce program over the past four

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years, positively impacting the lives of 112 Philadelphians.

Third is to show new and growing life sciences companies, startups, the value of local hiring and to lower barriers to hiring Philadelphians.

Based on research that shows that middle school is a pivotal time for career exploration, the Science Center's work in career pathways begins in the middle school and continues into high school with our award-winning free STEM out-of-school time education program, Firsthand. You can't be what you can't see, so we make sure students see scientists in action.

Building out of the Firsthand learning lab after high school, we connect young adults to opportunities with local STEM companies, ensuring that they can take their first step towards a STEM-related profession. This is a fragile moment for young adults and a

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huge opportunity. We recommend a substantial investment in post-secondary support for Philadelphia's young adults, with a focus on career navigation in the complicated life sciences industry.

In our recently published economic impact report, the Science Center identifies that the median salary across all jobs at companies supported by the Science Center is $105,000, 83 percent higher than the regional median income. This underscores the value of this industry as a driver of inclusive economic growth. But not everyone walks past the shiny lab and office buildings across our city and feels a connection to and understanding of what happens inside them. You can't be what you can't see.

Our work has shown us the importance of fostering a general understanding of what jobs exist in the life sciences industry and how adults with diverse educational backgrounds can

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be successful in these positions. We need to do a better job as an industry and city at marketing life sciences as a career option. Broad-based marketing of employment success stories can help encourage more Philadelphians to seek out these career paths.

As one of the many partners in the region who help new life science companies start and grow in Philadelphia, the Science Center makes it a priority to highlight to the companies we support the value of local hiring and community engagement. Many stakeholders, including the Chamber of Commerce for Greater Philadelphia, have been working hard to generate employer engagement around local hiring. Building on all our work, more support is needed to encourage inclusive and local hiring.

The City of Philadelphia can and should play a leading role in the growth of the life sciences workforce ecosystem. The Philadelphia Department

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of Commerce's Workforce Solutions grant program has created a powerful community of practice that supports strong, impactful programs. With over $9 million in requests for $1 million in funding this year, this key City program needs more support to achieve its full potential. The region's Good Jobs Challenge Award from the EDA is funding an industry-sector partnership in life sciences that is a critical piece of the puzzle. The City has also an untapped resource in the First Source Jobs policy, which could drive local hiring.

Thank you for your time and attention today and for considering our recommendations.

COUNCILMEMBER SQUILLA: Thank you. Thank you so much.

Please proceed. State your name for the record and proceed with your testimony, Dr. McGuire.

DR. McGUIRE: Thank you. My name is Dr. Kristy Shuda McGuire and I'm

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Professor and Dean of Biomedical Studies at The Wistar Institute, our nation's first biomedical research institute.

I was born in Philadelphia and after earning a Bachelor of Science Degree in Biology from Loyola University in Maryland, I returned to Philadelphia, taking a position as a Research Assistant at Drexel University College of Medicine while working on my master's degree in the science of instruction. I loved the research I was doing in a human genetics lab at Drexel, so I decided to pursue my Ph.D. in genetics at Thomas Jefferson University.

My connection to Wistar began when I was a faculty member in the Biology Department at Community College of Philadelphia. In order to address Wistar's own workforce needs for laboratory technicians, Dr. Bill Warner started Wistar's Biomedical Technician Training program, or BTT program, for students from Community College of

Philadelphia back in 2000. I started helping with the program in 2010 and served as the Academic Coordinator from 2013 until I left CCP in 2018.

As Dr. Warner was moving toward retirement, Wistar recruited me as Associate Dean to expand our education and training initiatives, especially the BTT program. The BTT program had been tremendously successful between 2000 and 2019 with 160, or 77 percent of students, having completed the program, including 52 percent from underrepresented races of ethnicities and 71 percent women. Of those students who successfully completed what was then a two-summer program, 46 percent started related positions and 64 percent continued their education in the year following completion. Forty-six percent and 64 percent actually add up to greater than 100 percent and what I always considered to be one of the strengths of the program, that students could continue their education while

working in the field they wanted to pursue.

In 2017, Wistar extended the BTT program to what is now our Fox Biomedical Research Technician apprenticeship, or BRT. Wistar's BRT apprenticeship was the first non-traditional apprenticeship in the field registered in the Commonwealth of Pennsylvania. This then allowed Wistar to register our Biomedical Technician Training program as a pre-apprenticeship in 2019.

Upon starting at Wistar in the fall of 2019, I helped finalize plans for the renovation of our state-of-the-art or really state-of-the-science dedicated training lab. We recruited a cohort of 12 CCP students who thought they would start the BTT program in May of 2020 and finish in August of 2021. However, due to the COVID-19 pandemic, we could not start a new cohort in the summer of 2020. Instead, I did a deep dive into our data

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and realized that even many of the students who had not completed the BTT program were often success stories. Either one summer of the BTT program was sufficient for them to obtain employment or they transferred to a college or university where they were not able to return the following summer to complete the program.

I applied for and received one of the inaugural grants from GSK's Philadelphia's STEM Equity Collective, a ten-year initiative to increase the number of Black, Latinx, and women Philadelphians pursuing STEM careers. With that funding, we piloted an accelerated one-summer version of the BTT program, allowing some of the students accepted in 2020 to still complete the program on their original timeline in August of 2021. We were astounded with the results. All 12, or 100 percent of the students, completed the BTT program, with 66.7 percent starting related

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positions and 91.7 percent continuing their education within the year.

With this success and grants from the National Science Foundation Advanced Technological Education program and Pennsylvania Department of Labor and Industry PAsmart Program, we have been expanding the BTT pre-apprenticeship from a cohort of 12 students to 20 students per summer. However, in order to have enough Community College students to fill these positions, we needed to expand to other community colleges in the Greater Philadelphia region.

To add additional cohorts outside the summer, in 2022 we received a vocational skills training contract from Philadelphia Works and partnered with West Philadelphia Skills Initiative to launch our BTT program for adults living and learning in Philadelphia, or ALL in Phil. WPSI received hundreds of applications for our first cohort with Iovance Biotherapeutics, but the pool was

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drastically decreased by selection for those who placed at 11th grade reading and math levels. In order to have a competitive life science workforce in Philadelphia, first and foremost we need to make sure Philadelphia students graduate high school with sufficient literacy and mathematics skills.

From that first cohort, 13 students, or 76 percent, completed the program and 10, or 77 percent, were offered positions at Iovance starting at $23 per hour. Nine participants from a second BTT for ALL In Phil cohort with Children's Hospital of Philadelphia completed the pre-apprenticeship at the end of 2023. We just celebrated another cohort of 12 students at Iovance Biotherapeutics on Friday and have our fourth cohort with the Skills Initiative and new employer Vintabio currently in progress.

It is crucial that Philadelphia supports programs with a history of

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proven success and that these programs scale in proportion to the needs of the life science workforce in Philadelphia.

We have limited our cohorts to both the number of positions available at partner employers and the amount of funding awarded, but have capacity to both expand the size of each cohort and the number of cohorts at Wistar per year.

You heard from some of our past trainees working in the life science industry today, Unique Stephens from Wistar's program with Cheyney University, Tylier Driscoll from Community College of Philadelphia and the BTT program, and Veton Meas from our first cohort of the BTT program for ALL In Phil with the Skills Initiative and Iovance Biotherapeutics.

As a world-renowned biomedical research institute that serves as both an employer and training provider in the life sciences, Wistar is best able to meet the growing needs of the life

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science industry in Philadelphia while continuing to innovate in science as well as education and training.

Thank you.

COUNCILMEMBER SQUILLA: Thank you. Thank you so much.

We have Dr. Anthony Green.

DR. GREEN: Yes. Good afternoon. I'm Dr. Anthony Green, Chief Scientific Officer at Ben Franklin Technology Partners of Southeastern Pennsylvania. And in context here, I started my scientific career at The Wistar Institute as a high school student over 50 years ago. Don't ask. I was also one of the first employees of Centocor when they started at the Science Center and before anybody knew where Malvern even was. I appreciate the opportunity to support this important resolution.

As today's last speaker sort of leaves it to me to help figure out how do we pull all these programs together that

you've heard about today. The U.S. Economic Development Administration's Tech Hub implementation program is one such opportunity, which I and Ben Franklin have had the privilege of leading on behalf of the region, and this does represent the entire Greater Philadelphia region, including South Jersey and Delaware.

We applied for and received one of 31 official Hub designations in October from over 350 proposals. Designation allowed the region to compete for federal funding, up to $75 million over five years. As Tia mentioned, on February 29th, we submitted an $80 million five-year proposal with a ten-year vision to create PROPEL, the National Center for Precision Medicine. We have over 70 committed partners and over 100 total organizations in our Hub community, ten of whom have participated in this afternoon's hearing.

In addition to matching funds

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from the Commonwealth for $5 million, $1 million from Delaware, we're also pleased to get a million dollar commitment from the City of Philadelphia, all over five years.

Critical to City Council and to the region, a significant percentage of the funding will be deployed here in Philadelphia. We estimate the economic impact of the Hub to include a projected 7,500 new, sustainable, high-paying precision medicine jobs with average salaries ranging from 85,000 to 125,000. This translates to over 20,000 total jobs, earnings of $2 billion and over 175 million in taxes to the region.

The Hub is built as a public-private partnership focused on precision medicine and life sciences. It addresses the gaps of the region's well-known but continuously underrecognized and undersupported life science assets, where groundbreaking new technologies emerge from our research

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institutions and life science companies every day.

In addition to these institutions and companies, the Hub incorporates industry, economic development, industry workforce organizations, community colleges and HBCUs, medical centers, hospital systems, and city, county, and state governments. Relevant to today's discussion, the workforce component has been selected as one of four critical projects for funding, which includes biomanufacturing, entrepreneurship, and healthcare access, each necessarily and purposely integrated into each other.

The Hub is also home to many supporting companies and organizations essential to commercialization - manufacturing, instrumentation, data management, clinical trials, market research, prototyping and fabrication, robotics, cyber security, and artificial intelligence.

But each of these elements needs its own diverse technologically competent workforce. The need to build and maintain this workforce is acute. Life science companies, including many funded by Ben Franklin, are desperate to fill positions at all levels, especially at bench-level science, manufacturing automation, clinical trial management, and software.

Our lead workforce partners, Philadelphia Works and the Tech Council of Delaware, have proposed bold new initiatives to leverage the breadth of programs and building on expanding programs you've heard about today that start at the middle/high school level, continue to students from the region's community colleges and HBCUs through to adults from all educational backgrounds and those in the workforce looking to upskill the skills they already possess.

These efforts again join many of the programs you heard about today,

the Keystone Life Science Initiative, the Philadelphia Works Good Job Challenge, Wistar's program, the Science Center's Firsthand program, all designed to develop that next generation of technologically competent workforce. Even companies that are more advanced will benefit from programs from the Delaware Valley Industrial Resource Center through the MEP program of NIST.

These are all great programs, but we need more, in order of magnitude more, to meet the demand. The Hub's workforce plan will focus on programs for participants to obtain technical skills based on industry standards and can be expanded to accommodate the region's entire life science community, not those just in precision medicine. This combination of exposure and experiential learning has a cumulative effect of enhancing participants' readiness for and transition into more advanced programs in high demand careers regardless of their

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starting point.

Ideas are created in labs. Products are built in companies. Populations benefit from both, but people make it happen. The proposed Tech Hub integrates the collective experience of all of our partners, including those providing comment today, to share how the pieces of this community of innovation, industry, and workforce connect and the understanding that advancing an innovation agenda requires an equal advance in workforce development, which accrues to the economic benefit, growth, resiliency, and security of Philadelphia and the region.

Again, on behalf of Ben Franklin Technology Partners, we are pleased to support any effort to build that next generation of workforce.

Thank you.

COUNCILMEMBER SQUILLA: Thank you so much.

And thank you all for your

testimony as we get through this hearing, and I thank you for also being patient enough to hang in there to be testifying at this late hour, but it really means a lot to hear what you have to say, so it's important.

Councilmember Young.

COUNCILMEMBER YOUNG: Thank you.

So my question is for Dr. Lyles-Williams. Good to see you again. How supportive is the life science industry and that private sector to minority entrepreneurs, particularly dealing with funding and contracting opportunities?

DR. LYLES-WILLIAMS: I mean, it's no secret that minorities all received a lesser end of the pot as far as investment in startup, including in biotechnology. So we have some work to do there. Thanks to somebody's other point earlier made the comment of making sure that the workforce has soft skills I

think in that nature, but we also need training on the employer side, right?

So I'm just being transparent. We got a lot of issues in my industry as far as building relations with minority groups and making sure that there's an inclusive and equitable workforce, but I believe we're on track here in the City of Philadelphia. Definitely the community has come together and become a lot closer, at least since I've been here in 2021 from what I can see, but we do have some work to do, but it is -- it's getting there. That's how I'll answer that question.

COUNCILMEMBER YOUNG: Thank you.

COUNCILMEMBER SQUILLA: Thank you, Councilmember.

Councilmember Gauthier.

COUNCILMEMBER GAUTHIER: Thank you, Mr. Chair.

I first wanted to commend Tia, because what she didn't say was that when

we were working with that on the land reservation in Southwest, part of the reason why we were so excited to do that with LucasPye BIO, beyond the fact that you're what we're talking about when we say people need to be able to see what they can be, but Tia and her company also put together a really robust community benefits agreement that specifies what they're willing to do and commit to around training, around jobs, and I think that's what we should be going for as this industry grows. So I just wanted to add my praise in there, because you didn't speak about that part.

DR. LYLES-WILLIAMS: You know, sometimes I can boast, sometimes I don't. But, yes, we made a commitment. We know we got to hire around 250 people when LucasPye BIO is up and running. We made a commitment for the majority of that workforce to come from locally in the City of Philadelphia.

COUNCILMEMBER GAUTHIER: I just

wanted to ask each of you -- all of you are critical pieces of this ecosystem and also embody the promise that's present here. I wanted you to talk about barriers to growth for your programs and organizations.

MS. NASH: One barrier is money. One of the hats I wear at the Science Center is government fundraising. So looking at from private, non-private sources, how do we sustain this important work. Sometimes there's work that's happening behind the scenes by entities like GSK or the Philadelphia Education Fund, who are backbones, whose whole job is to bring people together and convene. And it has been a challenge in the past to find and sustain funding for a good program. It's often like, oh, well, they're doing well and they're getting these great grants, so they're kind of taken care of, but we don't want somebody to have a perfect model and then have to continually change it to keep getting new

grants.

So really finding sustaining funding, which I know the state is looking into. Alignment with Department of Labor efforts and pre-apprenticeship and apprenticeship really help for these programs, but, again, we're always trying to find ways to sustain what's working and not to always have to be looking for something new.

COUNCILMEMBER GAUTHIER: Thank you.

DR. McGUIRE: I would echo that. These training programs are expensive just because of the people who have to be qualified to be able to teach them and also to be able to have the equipment, the science equipment, the reagents for the students to actually be pipetting that DNA in water, not just the water, right, to be learning these things in authentic context. And I would echo what Katie said, a lot of us have great programs, but we are constantly chasing

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the funding for not just expanding and adding on additional cohorts but just maintaining what we have. We're really good at braiding funding sources, but that is a constant challenge.

The other thing I think is this underutilization. So you mentioned the two CTE programs earlier. Both of the CTE at Roxborough and Dobbins are under-enrolled, right? We're running cohorts with less than the number of participants that can fit in our training lab. And there's different reasons for that. For us, the one thing is that we want to scale in proportion to the industry needs. We don't want to be training people for jobs that don't just exist right now, right? We want to make sure that as those jobs come online, we're preparing people to take those jobs. But there is still a lot of work to be done to get people interested in this as a career path.

DR. GREEN: This gives me an

opportunity to put on my Ben Franklin hat. As investors in early-stage companies, obviously it's about the money, where is the money coming from. Our organization as a non-profit venture capital, we only invest in Southeast Pennsylvania, and the companies are all here and, in theory, all the jobs will be there.

So the more money -- and Jen Gilburg is gone already, but we do get our core funding from the state, but it's not the only support that we get.

The other piece that you mentioned, and this is another gap that I believe can be addressed, the Hub is one approach to doing this, is the corporate connection in this region and getting the corporates to really play a much more significant role in building the region's ecosystem. People talk about Boston versus Philadelphia. I don't want to be Boston. I don't like Boston. I'm a Philly guy. All right? So I think what

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we have here is different, and we have an opportunity to exploit what's unique about this region, but we need the corporates here to think about technology as a means to an end, and that's a tough sell. We have not done a good job of making that sell to the big corporations and even the philanthropic organizations in this region. Sustainability is only going to happen when the money is here.

One last point. Tia brought this up. The gap in minority access to venture capital is just embarrassing. It still only represents maybe two percent of all the venture capital money. That's up from one percent. Now, you can decide whether that's a 100 percent jump or just less embarrassing, but we need to build programs that can promote entrepreneurship in the minority communities.

We are doing that. We have programs in the Hub built out for that. We're already doing that with a program

that we've put together with PACT, with Dean Miller's organization, called Mentor Connect. But we need to build that, expand that entrepreneurial base in a very real way. That will draw the venture money that we need to help get it from the other side, which is how do you get these companies to grow.

COUNCILMEMBER GAUTHIER: Okay. Thank you.

DR. LYLES-WILLIAMS: I'm on board with everything as far as funding, but I'll go back that we definitely need legal or lawful regulations to require employers to have a certain percentage of their employees come from minority neighborhoods. And not only that but also the supply chain, right? You have tons of small businesses that can already contribute to the life science ecosystem or it can pivot and add one more thing to what they already do to be able to contribute to the life science ecosystem.

So when we talk about

workforce, let's not just only think about people that can come in here and work on the shop floor. Let's also think about executives or the surrounding small business owners that can also contribute to the ecosystem.

COUNCILMEMBER GAUTHIER: Thank you so much.

Thank you, Mr. Chair.

COUNCILMEMBER SQUILLA: Thank you.

Thank you again for your testimony.

I do see we have some names for public comment.

COUNCILMEMBER YOUNG: Mr. Chair?

COUNCILMEMBER SQUILLA: Oh, I'm sorry. Councilmember Young.

COUNCILMEMBER YOUNG: Sorry.

So we had folks from CCP come and testify. Can y'all tell me how the -- tell us rather, I'm sorry, how have the other eds and meds in our city

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been contributing to your industry as far as workforce, as far as research goes and things like that?

MS. NASH: So the Science Center has the benefit of having a very close relationship with in particular academic and research institutions, because our founding as a non-profit included shareholders, and the shareholders are 31 of Pennsylvania, Delaware, New Jersey's leading academic and research institutions.

We see the eds and meds playing a huge role when it comes to seeding new companies. So Pennovation, our Temple's new NEST that they --

COUNCILMEMBER YOUNG: INEST.

MS. NASH: Yeah, iNEST that they just opened are examples. Those are the nurseries where these companies start, and those are the places where especially if they're encouraging founders of color, local Philadelphians to be starting and growing companies and

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providing them support.

The company that starts in Philadelphia and has roots in Philadelphia and wants to be in Philadelphia is going to want to stay and hire in Philadelphia, and the eds and meds have done a great job of being hotbeds of innovation and really focusing on lab-to-market commercialization. They see it as -- more and more it's not just about publishing research papers. It's about getting these fabulous ideas out of the lab and into the marketplace where they can improve people's lives. So they've really led the way, and a lot of the organizations, especially sitting around the table today, are working to fill gaps that they might not be covering. So if you're at one of the major institutions, you probably have access to a more robust tech transfer, a/k/a getting your idea out of lab and into the market support, but for some of the smaller institutions, they need sort

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of support from outside the organization, and that's when the Science Centers and the Ben Franklins and others come in to provide the extra support. That's sort of organization agnostic, I'll say.

DR. LYLES-WILLIAMS: I would just say it's been very helpful. Jackson Taylor, my therapeutic company, just got accepted to the accelerator program at Drexel University. And so the whole basis of that program is to extend out all of those resources that those students on campus have access to is now being provided to minorities with tech or biotech startups that don't necessarily come from Drexel. I mean, we're not alumni of Drexel. We have no attachment to Drexel until now for that program. And I know PACT is doing something similar and knocking on my door now.

So it's been helpful, but we definitely still got to do some work as far as what they said with the funding piece and then just making sure that

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there are actual financial resources to minority startup founders outside of just mentorship. That is a huge barrier that we have to -- not only us, but other cities around the United States have to figure out, but especially us.

What brings the money into life sciences is not just R&D. It's the manufacturing piece, right? R&D is investment, it's grants, and may even be philanthropic donations, but when it comes to manufacturing, that's investment too, but that creates the most bang for your buck. That creates jobs. So you go from an R&D bench that may -- let's say how Iovance said they started out, right, 15 people. I'm pretty sure as they grew manufacturing, there was the whole purpose of partnering with Wistar, because eventually they're going to have the bigger manufacturing plan that can actually afford the capacity or the demand that their product is going to start to incur, right?

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Another example, Spark Therapeutics. Their manufacturing is done, I believe, down in North Carolina. They were looking for a partner here. I was involved in those conversations, just couldn't get my facility up fast enough, right? And so now they've decided to take on manufacturing and do it themselves, and that's great, but that's not going to be every biotech company's story or ability.

Roche was very unique in doing it. They haven't invested in a manufacturing facility in I don't know how long. So for them to do that tells you the amount of capital they're willing to put up, but it also tells you the amount of demand and the amount of job opportunities that comes with that for them to say, okay, we'll go ahead and do it ourselves since we can't find a partner.

So that's the things we need to be thinking about when it comes to

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workforce and life sciences. If we can find a way to bring the commercial side of biotech and life sciences away from the R&D bench into Philadelphia, that will equal economic prosperity for everyone involved.

COUNCILMEMBER YOUNG: Thank you.

COUNCILMEMBER SQUILLA: Thank you. Thank you so much, and thank you for that answer.

Thank you all for your testimony. Much appreciated.

Now it looks like we'll go to public comment. There are three names that I see, Bob Rovinsky, Lake Paul, and Patrick Oates, if you want to make your way to the table if you're here.

MR. ROVINSKY: I'm Bob Rovinsky. I will be redundant.

(Speaking without microphone.)

COUNCILMEMBER SQUILLA: Okay. Thank you. Thank you for that. Appreciate it.

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That was Bob Rovinsky. Is Patrick Oates here?

Patrick, just step up to the table, if you'd like.

(Witness approached witness table.)

DR. OATES: Yes. Thank you so very much. My name is Dr. Patrick Oates and I have the wonderful pleasure of serving as the Chairman of PHL Life Sciences Advisory Board, but my 9:00 to 5:00 is I'm the Senior Vice President of Business Development and Corporate Strategy for EMSCO Scientific. EMSCO Scientific is probably the oldest African American-owned and operated life science company in the City of Philadelphia and probably in the State of Pennsylvania. Since 1980, we've sourced laboratory supplies, laboratory equipment, chemicals, and other essential tools used in biomedical research to the likes of the University of Pennsylvania, Children's Hospital, Temple University,

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Thomas Jefferson, and even companies like Merck Pharmaceutical company and Bristol Myers Squibb.

So since 1980, since our founding by an African American woman by the name of Evie Minor, we've been sourcing these essential tools. Evie sold the company just about eight years ago to a group of African American men and brought me on board to run the company. It's been now eight years, and we've grown the company from -- when we acquired it in 2015, we were selling -- we were probably at about $8 million in sales per year. Now last year we were at $60 million per year in sales.

So we're excited, because we've worked with a number of the folks that spoke today. We're extremely excited about the work that Councilwoman Gauthier is doing in the life sciences and bringing the City's awareness or offering information to the City so that everyone can be aware of the many opportunities

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here in the City of Philadelphia in the area of life sciences, specifically in light of the cell and gene therapy research that's taking place in Philly and the many opportunities that are going to stem from that innovative research that's taking place.

So I would agree with what was said today. I think it's absolutely essential that there be a collaboration, there be a sense of awareness created by this body, encouraging others to really realize that Philadelphia is ideally positioned to be the life science ecosystem -- the number one life science ecosystem in the City of Philadelphia. And certainly with the Mayor's interest in this area, the members of City Council, and the members of the Chamber of Commerce, we are primed and positioned for success.

Thank you.

COUNCILMEMBER SQUILLA: Thank you so much for your testimony. And

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before you leave, the Chair recognizes Councilmember Gauthier.

COUNCILMEMBER GAUTHIER: Thank you so much for being here and thank you for the work that you're doing. We were just together earlier. EMSCO is in Councilmember Jones' district in West Philadelphia.

After hearing this full conversation, do you have anything to add about what we really need to do as a city to prepare our workforce and what role the City of Philadelphia can play in that?

DR. OATES: I think it's just essential that our young people really see for themselves what's available to them and what opportunities exist and that this industry calls for more than just Ph.D.s or M.D.s, but it calls for men and women who are genuinely interested in assuming a career in life science. We need to really educate them on what exactly is life science. All

right? So we need to make it -- we need to deliver a message that it's palatable to everyone, not just the researchers at Penn or Temple, but young men and women in schools, in high schools across the City.

I started my career at -- I was a student at WB Saul High School years ago, and at that time, I knew -- I became interested in science. I knew I was good at it. And so along with my parents and teachers, many teachers encouraged me and said, hey, you could do it.

That's what we need to be intentional about, is encouraging our students, letting them know they're capable and they can achieve in the sciences, and then give them some idea what these careers look like.

Here in Philly, West Philadelphia, as I said, we've been in existence since 1980. We just completed a new 70,000 square foot facility that we built from the ground floor up, and we

welcome all of you to come and see it. We had the pleasure of having the Councilwoman there this morning along with Councilman Curtis Jones. And that's just an example of what men and women with a like-mind and like-thought can do, and ultimately to employ men and women of all communities in Philadelphia to work in this thriving economy.

COUNCILMEMBER GAUTHIER: Thank you so much. We're really proud of you and we hope to help you grow even more. Thanks so much for being here today.

COUNCILMEMBER SQUILLA: Councilmember Young.

COUNCILMEMBER YOUNG: Yes. Thank you.

Thank you, Dr. Oates. Just one question. Have you seen -- you've been listening to the testimony today. Have you seen similar issues around workforce development at your particular company and finding the right people to do those jobs?

DR. OATES: What I find most challenging -- and thank you for your question, Councilman Young. What I found most challenging is finding men and women from across the City of diverse backgrounds. I remember at one time I needed someone -- this is probably about five to six years ago. I needed an account manager to handle the account at the University of Pennsylvania, and that called for a person to come and to actually walk the halls and to meet with researchers, and I needed -- I preferred someone of color. So I put a call out to -- I think I used Indeed. And I was flooded, flooded with resumes, but, you know, as a minority company, we want to try to do our best to identify men and women of color to work in the life science industry, because historically it's white dominated. And so we wanted to identify men and women of color to work in this space. But we had many, many candidates that applied, but no one

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of color, quite frankly.

And so that's been our biggest challenge, is to really find men and women from Black and brown communities throughout Philadelphia who are able to work and who are skilled and able to assume a role within the company.

So now we've been -- what I've tried to do is to look at the talent that's coming out of schools. I ended up hiring a young Hispanic woman out of Thomas Jefferson University to fill that role, and she came to me through a recommendation from someone else.

COUNCILMEMBER YOUNG: Thank you.

COUNCILMEMBER SQUILLA: Thank you.

Thank you so much for your testimony, and we really appreciate everyone's testimony today on this great subject.

Thank you, Councilmember Gauthier, for your hard work and bringing

this to the attention of the City as a whole and looking forward to improving it and making it better.

There being no further questions from any members of the Committee and no other witnesses to testify, I'll ask if there's anyone present in this hearing whose name we have failed to call and wishes to offer testimony on this resolution being considered today?

(No response.)

COUNCILMEMBER SQUILLA: Hearing none and seeing none, this concludes the business before the Committee on Commerce and Economic Development. We will now recess the hearing to the call of the chair.

Thank you all very much for your attendance. Have a great day.

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(Committee on Commerce and Economic Development concluded at 5:22 p.m.)

CERTIFICATE

I HEREBY CERTIFY that the proceedings, evidence and objections are contained fully and accurately in the stenographic notes taken by me upon the foregoing matter, and that this is a true and correct transcript of same.

Michele L. Murphy

MICHELE L. MURPHY
RPR-Notary Public

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