



**Friday, September 9, 2020
11:30 A.M. - 1:30 P.M.
(Virtual, via Google Meet)
Meeting Minutes**

Welcome and Introductions

Dr. Perman gave opening remarks and reviewed the ground rules of a virtual meeting. He called the meeting to order and carried out rollcall to confirm attendance. Dr. Perman introduced and welcomed new Board members – Laurie Locascio, Marty Rosendale, Brian Stamper and Joe Sanchez.

Board Members in Attendance

- Jay Perman, MD, Chancellor – University System Maryland [Chair]
- Christopher P. Austin, MD, Director, National Center for Advancing Translational Sciences – U.S. National Institutes of Health
- Richard A. Bendis, President and CEO – BioHealth Innovation, Inc.
- Jarrod Borkat, Vice President Corporate Strategy – Emergent Biosolutions
- William Hearl, PhD, President and CEO – Immunomic Therapeutics Inc.
- Laurie Locascio, PhD, Vice President for Research – University of Maryland, College Park
- Theodore J. Olsen, President and CEO – PathSensors, Inc.
- Wendy Perrow, CEO – Oncogenomics, LLC
- Brian Stamper, Director of Manufacturing – Kite Pharma
- Joe Sanchez, PhD, Director, North America R&D Science Engagement – AstraZeneca
- Arti Santhanam, PhD, Executive Director, Maryland Innovation Initiative Program – TEDCO
- Kelly M. Schulz, Secretary – Maryland Department of Commerce
- Bob Storey, Principal – The MVR Company
- Sanjay K. Rai, PhD, Chief Academic Officer and Senior Vice President for Academic Affairs – Montgomery College
- Marty Rosendale, CEO – Maryland Tech Council

Board Members not in Attendance

- Frank F. Weichold, MD, PhD, Director, Critical Path and Regulatory Science Initiatives, Office of the Commissioner – U.S. Food and Drug Administration
- Christy Wyskiel, Senior Advisor to the President and Head of Johns Hopkins Technology Ventures – Johns Hopkins University

Department of Commerce Attendees

- Ernesto Chanona, PhD – Senior Manager, BioHealth & Life Sciences
- Ulyana Desiderio, PhD – Director, BioHealth & Life Sciences
- Heather Gramm – Senior Director, Strategic Industries & Entrepreneurship
- Jennifer LaHatte – Business Policy Analyst
- Tamar Osterman – Senior Business Development Representative, Carroll and Frederick Counties
- Connie Page – Administrative Associate
- Signe Pringle – Assistant Secretary, Division of Business and Industry Sector Development
- Allyson Redpath – Director, Entrepreneurship

General Public Attendees

- Hany Demian, Standards Executive, Office of Regulatory Science and Innovation, Office of the Commissioner – U.S. Food and Drug Administration [Representing Frank Weichold]
- Bruce DePuyt, Reporter – Maryland Matters
- Ann Ciekot, Partner – Public Policy Partners
- Sherri Giorgio, Director, State Government Affairs, Mid-Atlantic Region – Gilead
- Patrick “P.J.” Hogan, Senior Vice President – Cornerstone Government Affairs
- J. Thomas Sadowski – Vice Chancellor for Economic Development, University System of Maryland

Dr. Perman reminded everyone about the Board’s charge to maintain Maryland’s preeminence in the life sciences industry and gave an overview of the meeting’s agenda.

Secretary of Commerce Updates

Secretary Schulz welcomed everyone and thanked Dr. Perman for leading the LSAB and welcomed the new members of the Board. The Secretary gave an overview of actions taken by the state of Maryland to support its business community:

Commerce Financial Assistance Programs

The Department has approved nearly \$95M in grants of up to \$10,000 to more than 9,300 businesses and awarded loans of up to \$50,000 to nearly 1,650 businesses. The \$5M Manufacturing Grant Fund was created to assist Maryland companies start or ramp up production of personal protective equipment (PPE) such as masks, gowns and ventilator parts. To date, Commerce has approved grants of up to \$100,000 to 53 businesses, totaling \$3.8M.

Maryland State Arts Council is providing another \$3M in grants, which will include \$1M for county arts agencies, \$435,000 for the entities managing Arts and Entertainment districts, and more than \$1.5M for organizations and independent artists. Governor Hogan also provided additional \$5M in funding for Maryland Small Business Development Financing Authority to help economically disadvantaged small businesses that have been negatively

affected by COVID-19. Commerce also secured a federal grant from the U.S. Economic Development Administration earlier this summer which will provide \$700,000 from the CARES Act to re-capitalize the Maryland Economic Adjustment Fund. These loan funds will be available to help small businesses take proactive steps to prevent COVID-19 transmission and to respond to economic injury that has resulted from the pandemic.

Maryland's Economy

Most recent jobs report shows Maryland's unemployment rate at 7.6%, which is below the national average of 10.2% and the lowest rate in the mid-Atlantic. The state saw 2.1% job growth in July, the seventh best rate in the country. Commerce's in-house economist notes that Maryland's unemployment rate fell while its labor force grew in July; conversely, the national rate fell while the labor force contracted. This indicates Maryland is in a more stable economic position than the country as a whole; not only more people are returning to work, but more people who had previously stopped looking for work are looking again.

Life Sciences and Innovation

Over 40 Maryland companies are developing and manufacturing vaccines, therapeutics and tests for COVID-19, often working hand-in-hand with research institutions like the Johns Hopkins University and the University System of Maryland. Even before the pandemic, the Department of Commerce wanted to celebrate small businesses and entrepreneurs who are bringing the boldest new ideas to the marketplace. Now the feeling is that this effort is more important than ever. Commerce's "Innovation Uncovered" campaign is using blog posts, videos, and social media promotion to highlight the most creative businesses Maryland has to offer. The centerpiece of the project will be the search for the "Maryland Future 20," a list of innovative Maryland startups with the potential to become the state's next major business success story. Nominations will be accepted through the end of September at open.maryland.gov/innovation.

Review and Acceptance of May 15, 2020 Meeting Minutes

Dr. Perman asked for feedback on the minutes of the May 15, 2020 LSAB meeting. Hearing none, he asked for a motion to approve the minutes which was made by Mr. Olsen and seconded by Mr. Borkat. The meeting minutes were approved unanimously.

Update on Federal Funding Opportunities

Dr. Austin gave an overview of federal funding that is available to Maryland companies working on research and development in response to the COVID-19 pandemic. The total amount of money dedicated to COVID-19 is well over \$20B, in addition to normally appropriated funds. Given the urgency of the pandemic, the government has been uncharacteristically fast in awarding these grants since the funding was approved in March and April. Some businesses may not be aware that they are eligible for many of these of grants, contracts and other funding mechanisms.

The NIH is one of the biggest sources of federal funding; there are over 400 opportunities specific to COVID-19 at the NIH alone. However, other agencies such as the National Science Foundation, the

Department of Energy, the Department of Defense, the U.S. Department of Commerce, the National Institute of Standards and Technology, the U.S. Environmental Protection Agency, and the Department of Veterans Affairs are all participating. It is important to stay current on the opportunities available through the Department of Defense, including the Defense Advanced Research Projects Agency (DARPA) and its health-related arm, the Biomedical Advanced Research and Development Authority (BARDA), which are heavily involved in Operation Warp Speed.

Mr. Storey shared his perspective on being involved with one such federally funded program, the Rapid Acceleration of Diagnostics (RADxSM). He noted that he is one of the six portfolio executives for RADx-Tech, RADx-ATP and RADx-NEXT, which are different components of the initiative. Teams consisting of a team lead, a project facilitator, and an assistant project facilitator do initial deep dives into the company proposals. The recommendations then go to the steering panel and get approved or rejected; meanwhile the teams continue to work with the companies through different stages of development. At any given time, each team has a dozen or so projects moving through the process. The team leads are responsible for individual companies, while the portfolio executives report on a collection of projects. Maxim Biomedical, from Rockville, is so far the only Maryland company in the program.

Mr. Storey opened the floor for questions and discussion. Dr. Rai and Dr. Santhanam asked whether they could access a list of Maryland companies that are now in consideration for RADx-Next. They suggested reaching out to these companies to see if there is anything that can be done to help to compete for these awards. Dr. Locascio asked Mr. Storey to speak on whether RADx will be doing community outreach to cover underserved populations. Due to the limited time left on the agenda, Mr. Storey offered to speak to Dr. Locascio offline.

Maryland Response to the COVID-19 Pandemic

Dr. Locascio gave an update on the University System of Maryland's efforts in response to the pandemic. Under the Strategic Partnership Act of 2016, the University of Maryland Baltimore (UMB) and the University of Maryland Baltimore County (UMBC) were linked under one research enterprise. Now that they will be ranked together, they make a second \$1B research enterprise in Maryland in addition to the Johns Hopkins University. Dr. Locascio noted that very few states have two research enterprises of this magnitude.

In the beginning of the pandemic, from mid-March to June, there was an immediate shut down of all clinical research, with some exceptions for COVID-19 research. Soon, the university system pivoted to creative solutions to respond to the pandemic. University of Maryland College Park (UMD) reallocated over \$700,000 in seed funds for COVID-19 research. Projects funded included improving communication during the pandemic as well as novel testing for virus transmission. UMD partnered with Carnegie Mellon University and Facebook to help collect SARS-CoV-2 data and develop a dashboard tracking transmission data across the United States. This effort helped to inform Dr. Fauci and the National Institute of Allergy and Infectious Diseases regarding research on the use of masks limiting airborne transmission of the virus. The Maryland Small Business Center has developed the Small Business Recovery and Sustainability

Guide and the staff have been out in the field helping small businesses. UMB has developed statewide and national partnerships to test COVID-19 vaccine candidates.

The Johns Hopkins University has also been involved in pandemic response, including establishing a dashboard monitoring SARS-CoV-2 transmission worldwide. The Department of Defense awarded \$35M to Johns Hopkins for a clinical trial of convalescent plasma therapy. Universities in Maryland received 30 rapid awards in the past several months, with six going to Johns Hopkins and 16 to UMD; \$42M have gone to UMB. The Chancellor formed a COVID-19 Task Force for Research and Innovation which launched an app challenge to engage students to help find solutions to the pandemic. There are also discussions of establishing a new institute on pandemic preparedness that will focus on four pillars: 1) medical counter measures; 2) business impact and economic recovery; 3) pandemic prediction, tracking, war-gaming, vaccine adoption; and 4) societal impact, including healthcare disparities and mental health care.

Mr. Rosendale described activities of the Maryland Tech Council (MTC). When the pandemic began, the Council saw many of its members pivot immediately to support the response to the pandemic, using their own funds to evaluate their technology and therapeutic development platforms. The MTC formed a COVID-19 Coalition to help its members connect, have meaningful conversations and ask each other questions about pandemic response. The requests were straightforward, with the main needs being PPE and testing kits to achieve 100,000 tests per month. Twenty-five companies participated in the first call, with the number raising to over 40 at present all responding to the pandemic.

Over \$3B of federal funding and \$4M from Coalition for Epidemic Preparedness Innovations have been awarded to Maryland. Many companies got involved in different ways: Lockheed Martin supplied their fleet of jets for transportation and Pfizer and GSK offered their scientific expertise. The MTC was able to connect with the Naval Service Warfare Center that is manufacturing and 3D-printing masks and other PPE components. Many companies that had pivoted to producing tests needed clinical samples – the MTC worked with local universities and medical centers to help make these connections. Other companies requested clinical research support assistance. Currently the biggest issues are around logistics of vaccines and therapeutics development and distribution.

Technology companies pivoted rapidly; and with the stimulus packages coming from the state and federal government it became confusing for businesses because the rules were changing almost daily. A small group of technology companies collaborated to produce a COVID-19 Business Relief Eligibility Wizard app that has been used by over 35,000 companies to date. In addition, the MTC had changed the topic of its regular CapitalM podcast that covered access to capital in Maryland to a videocast focused on COVID-19. Over 1,000 people have tuned in for this videocast and additional 600 people either downloaded or watched it on YouTube. The MTC has also formed the Business Continuity Task Force that helps businesses navigate the financial, pipeline and supply chain issues they may face, as well as advise on how best to prepare the offices when it's time for employees to return to work. The task force includes a

network of over 150 executives and has licensed a platform created by the Massachusetts Institute of Technology; it helped over 100 companies to date. The MTC also formed a Life Science Workforce Coalition to make sure that the industry is connected to the local talent.

Mr. Rosendale and Mr. Bendis are leading a Connected DMV work group that is looking at the response to COVID-19 and preparedness for future pandemics. The group has recently made a recommendation to create a new Pandemic Prevention and Defense Center. The Center would be a global leader on the causes of pandemics and proactively develop technologies that will position the nation to respond to future emergencies more rapidly. This idea is still in the early stages that will develop into a plan in the next six months. Mr. Bendis suggested to Dr. Locascio that the University System of Maryland should have a conversation with Connected DMV as they are both thinking about strategy for future pandemic preparedness.

Discussion: Lessons Learned and Remaining Challenges

Dr. Rai led a discussion focused on workforce needs in the state of Maryland and the DMV region. With the expansion of testing, development of vaccines and global supply chains becoming less dependable, more manufacturing may be coming back to Maryland and the U.S. It is important to not only continue meeting the existing workforce needs but anticipate these emerging areas. Dr. Rai represents 16 community colleges in the state of Maryland who are all well-positioned to prepare the workforce. It would be important to identify talent gaps for the life sciences industry, for example biomanufacturing, and develop programs that supply this talent in the next 10-12 months.

Mr. Stamper noted that students graduating from colleges can be successful right away if in addition to having fundamental skills they understand good manufacturing practices and how to work in a regulated environment. Industry doesn't just need scientists and engineers, it needs people to work in the warehouse, people that understand finance, business systems and project management. Mr. Stamper encouraged the LSAB to collaborate with existing efforts, including the MTC Workforce Coalition. Mr. Olsen added that Dr. Rai has done an outstanding job at Montgomery College and the capabilities of the students graduating from its programs has been very impressive. PathSensors/Smiths Detection, which is in Baltimore, works closely with the Baltimore City Community College (BCCC) and the BioTech Institute. High School Connectivity is a new program that was started by the BCCC. Baltimore has a pool of very smart students, but there is lack of equipment. For example, Edmonson High School has only 20 computers in the library for 575 students. Mr. Olsen asked Dr. Rai if there is a way to help the BCCC get close to the level of Montgomery College.

There was a general discussion of the Kirwan Commission recommendations passed during the last legislative session and vetoed due to budget constraints related to the pandemic. Mr. Sadowski added that there is a need to have clear understanding of the skills the industry requires both in short- and long-term. He also asked to keep in mind the scale the workforce training programs as well as gaps that may exist between the two-year and the four-year institutions. Mr. Rosendale noted the importance of a diverse workforce. Secretary Schulz mentioned Baltimore's EARN program and said that there are many opportunities that are currently available for community colleges for

advanced training and education. UMBC cyber security training center's "learn and earn" program was discussed as a possible model. There are many certificate opportunities and other types of individual training available throughout the state funded by the Department of Labor. She also noted that the Apprenticeship programs have grown beyond classic trade to jobs relevant to the life sciences and other technological fields. There was general agreement that the workforce development discussions need to be happening sooner rather than later and it would be paramount for the industry to be engaged right away.

Closing Remarks

Dr. Perman thanked everyone for attending and actively participating in the meeting. He thanked Dr. Desiderio and Department of Commerce staff for supporting the activities of the LSAB. Dr. Perman asked everyone to continue to celebrate Maryland's successes in responding to the pandemic. He urged the Board to collaborate with existing efforts on ensuring the life sciences industry continues to have access to a diverse and skilled workforce. The Board's next virtual meeting is scheduled for Friday, November 20, 2020 1:00 -3:00 p.m. Members wishing to submit items for the next meeting's agenda were asked to send them to Dr. Desiderio. Hearing no additional remarks from the members of the public, Dr. Perman adjourned the meeting at 1:30 p.m.