



Commonwealth Advanced Data Analytics Alliance & The President's Precision Medicine Initiative

Deputy Secretary Anthony Fung
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Commonwealth Advanced Data Analytics Alliance

Mission Statement:

Develop the premier data analytics ecosystem that will sustain, attract, and grow world-class talent, increase jobs, small to large companies, promote innovation and investment in the New Virginia “Data” Economy

The Opportunity



- A McKinsey study found that by 2018 there could be a shortage of 140,000 to 190,000 individuals in the United States with deep analytical talent needed for Big Data and Analytics.
- A recent IDC forecast shows that the Big Data technology and services market will grow at a 26.4% compound annual growth rate to \$41.5 billion through 2018.
- Governor McAuliffe has set the imperative to diversify the New Virginia Economy in the areas of bioscience, Big data and analytics, and cyber security. Big data analytics has opportunities and solutions in all three areas.

At the moment we have an opportunity to fill thousands of high wage data analytics related jobs to diversify and grow our economy. Virginia must respond by generating the right talent and create the right ecosystem needed to support companies in big data analytics or we will lose them to states such as North Carolina, Massachusetts, and New Jersey who are aggressively investing to capture this market. Operationalizing the CoE defined in this presentation will be crucial to seize this opportunity. We must invest the right amount of resources and effort to ensure success.

Objectives



In data analytics:

- Narrow the supply and demand gap in the workforce
- Increase the number of developing and emerging companies
- Expand programs in education system and further align them with companies and organizations needs
- Increase intellectual property commercialization opportunities
- Increase demand for Virginia's data analytic products and services by promotion, branding, trade missions, etc.
- Develop and promote collaboration opportunities across the public, private, and academic spectrum

Metrics



- % of member companies' jobs filled
- # of net in/out of data analytic companies
- # of graduates from data analytics programs
- % graduates in analytic programs retained in VA
- \$ value of data analytics products and services sold
- \$ of grant resources received for research
- # ranking of Virginia of states for data analytics
- % of certified VA professionals (i.e. CAP if adopted standards)

A Strong Alliance that is Growing...



Domains



- Bioinformatics
- Cyber analytics
- Fraud analytics
- Citizen services

Challenges to address



- Sustainable funding/resource model
- Commitments by Higher Ed Institutions, Companies, and Public Sector
- Data sharing models across entities
- Incubation lab to rapidly test and deploy viable concepts
- Sustainability; institutionalize dependency on COE and value advocacy
- Need to define a long term roll out strategy

Partner's Program – Phase One



- Obtaining multi-discipline internship teams support for proprietary or open data analytic project
 - Solve use cases/challenges, access/recruit top talent, no admin burdens
- Participation in pioneering/thought leadership projects with government partners ex. PII Framework project
 - Cited in published papers, sponsorship promotion
- Participate in datathon/recruiting event, talent in action, open to data science talent across all Virginia Higher Ed Schools
 - Access/recruit top talent
- Participation in focused data analytic efforts in verticals in public and private sector ex. Virginia Bio effort in Neuroscience
 - New business opportunities, SME support, opportunities to diversify business
- Access to Higher Ed. SMEs and faculty (CoE associates).

Precision Medicine Initiative (PMI)



President Obama's Precision Medicine Initiative

Mission Statement:

To enable a new era of medicine through research, technology, and policies that empower patients, researchers, and providers to work together toward development of individualized treatments.

Precision Medicine Initiative (PMI)



- Precision medicine explores each patient's unique:
 - Genome sequence
 - Health history
 - Lifestyle
 - Diet
 - Other determinant factors
- Precision medicine gives clinicians tools to better understand the complex mechanisms underlying a patient's health, disease, or condition, and to better predict which treatments will be most effective

Precision Medicine Initiative (PMI)



- President Obama announced PMI in the 2015 State of the Union Address
- PMI features a comprehensive research program designed to move medicine from “one-size-fits-all” approach to a patient-centric, informed, and integrated set of strategies
- PMI Objectives
 - More and better treatments for cancer
 - Creation of a voluntary national research cohort
 - Commitment to protecting privacy
 - Regulatory modernization
 - Public-private partnerships

Precision Medicine Initiative (PMI)



- PMI launched with a \$215 million investment in the President's 2016 Budget:
 - \$130 million to National Institutes of Health (NIH) for baseline study with a voluntary national research cohort
 - \$70 million to the National Cancer Institute (NCI) for research to identify genomic drivers in cancer and targeted treatments
 - \$10 million to Food and Drug Administration (FDA) to acquire additional expertise and develop high quality, curated databases
 - \$5 million to the Office of the National Coordinator for Health IT (ONC) to support development of standards and requirements for interoperability

Precision Medicine Initiative (PMI)



- PMI's Guiding Principles for Sharing Information, Protecting Privacy and Building Trust:
 - Creating a dynamic and inclusive governance structure
 - Building trust and accountability through transparency
 - Respecting participant preferences
 - Empowering participants through access to information
 - Ensuring responsible data sharing, access, and use
 - Maintaining data quality and integrity

Contact Information



For more information

<https://www.whitehouse.gov/the-press-office/2015/01/30/fact-sheet-president-obama-s-precision-medicine-initiative>

Or questions, please contact:

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