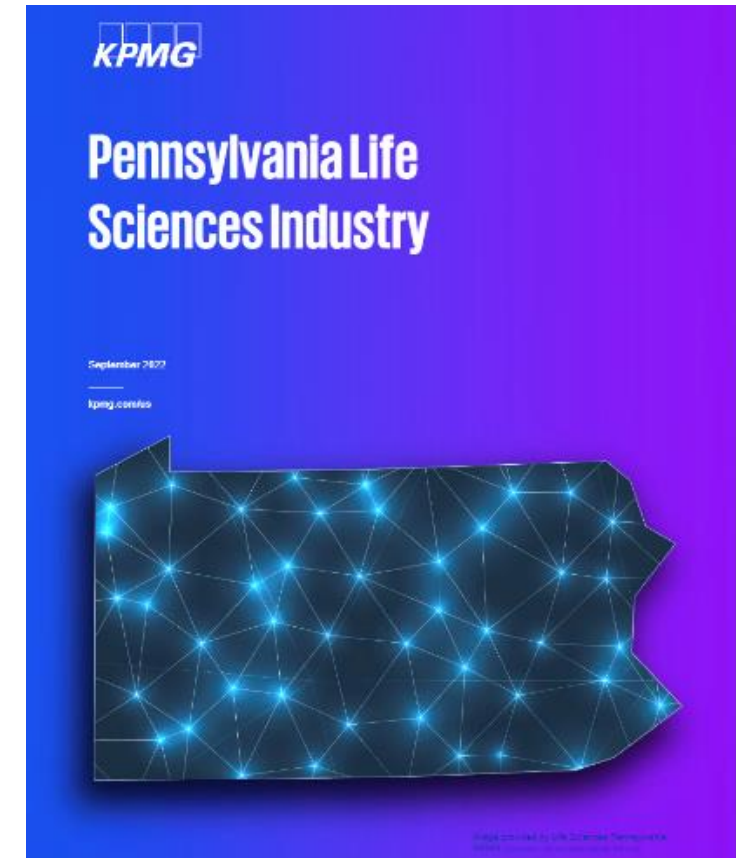


Pennsylvania Life Sciences Industry

About the Report

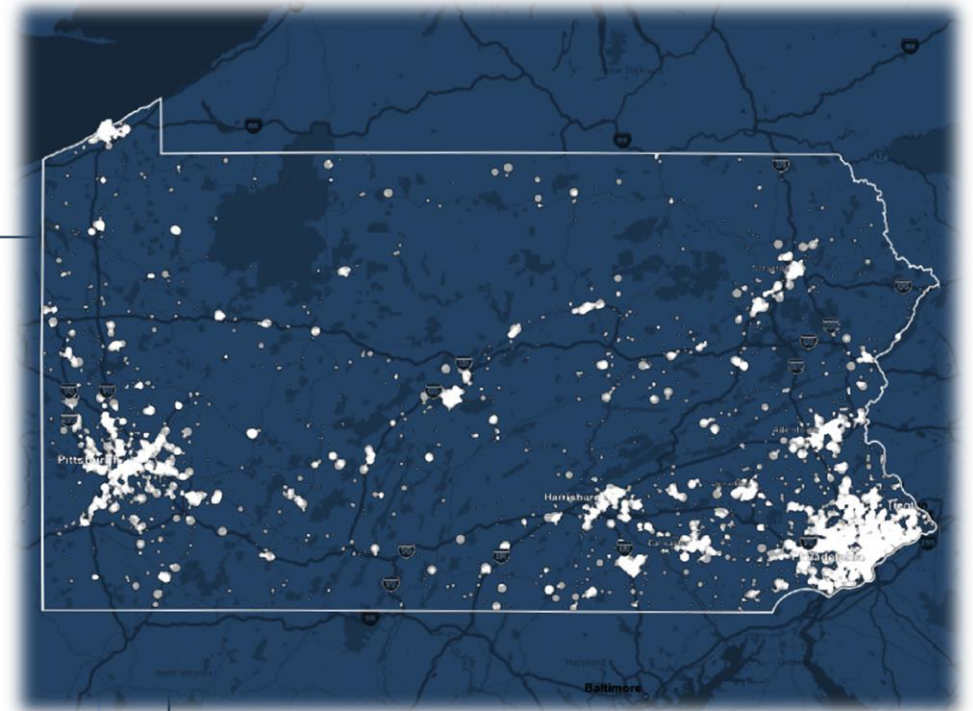
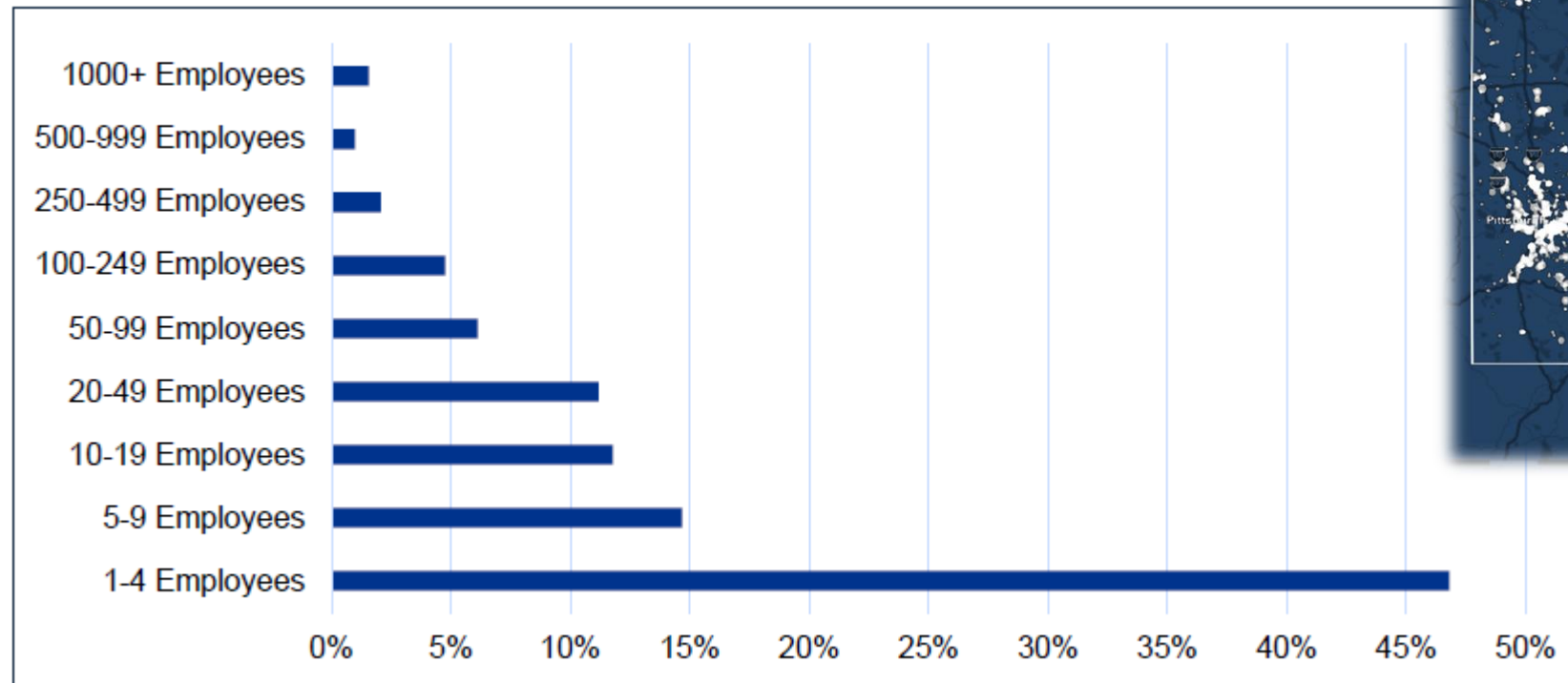
- Prepared by KPMG
- Released September 22, 2022
- Snapshot in time – Data from 2020 and 2021
- Peer states for the purpose of this study:
 - California
 - Maryland
 - Massachusetts
 - New Jersey
 - New York
 - North Carolina



Establishments

- 3,009 Life Sciences establishments* (17% increase from 2015)
- More than 60% are organizations with <10 employees

Figure 3: Life Sciences Establishments in Pennsylvania by Number of Employees in 2019

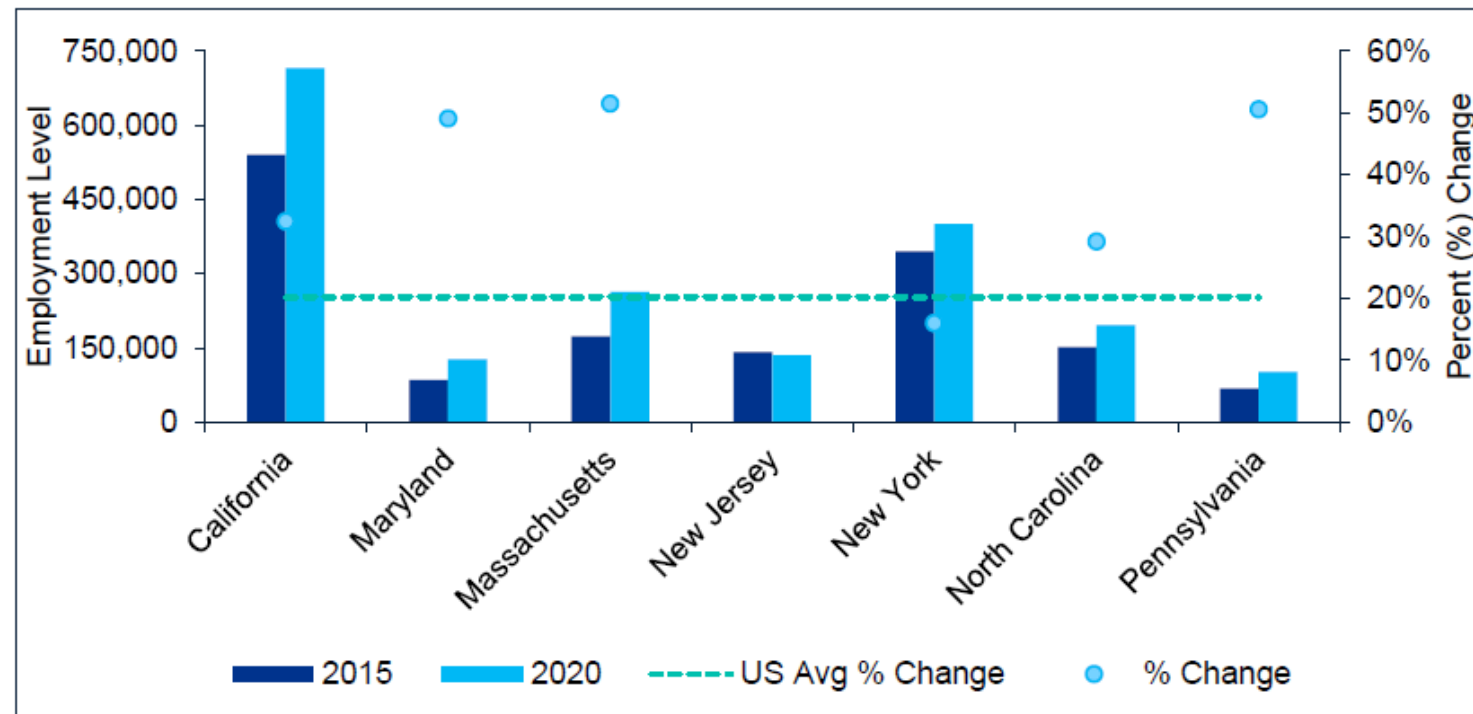


*Establishments are defined as a single physical location at which business is conducted or where services or industrial operations are performed

Employment

- **102,000** Direct Employment (**50.6% increase from 2015**)
- **230,000** Indirect & Induced Jobs
- **332,000** Total Jobs

Figure 23: Direct Employment Growth and Percent Change in the US and Peer States – Comparing 2015 to 2020



Economic Impact

Labor Income (Wages & Salaries)

- \$18.4 billion Direct
- \$16.9 billion Indirect
- **\$35.3 billion TOTAL**

Economic Output

- \$61.9 billion Direct
- \$43.7 billion Indirect
- **\$105.6 billion TOTAL**

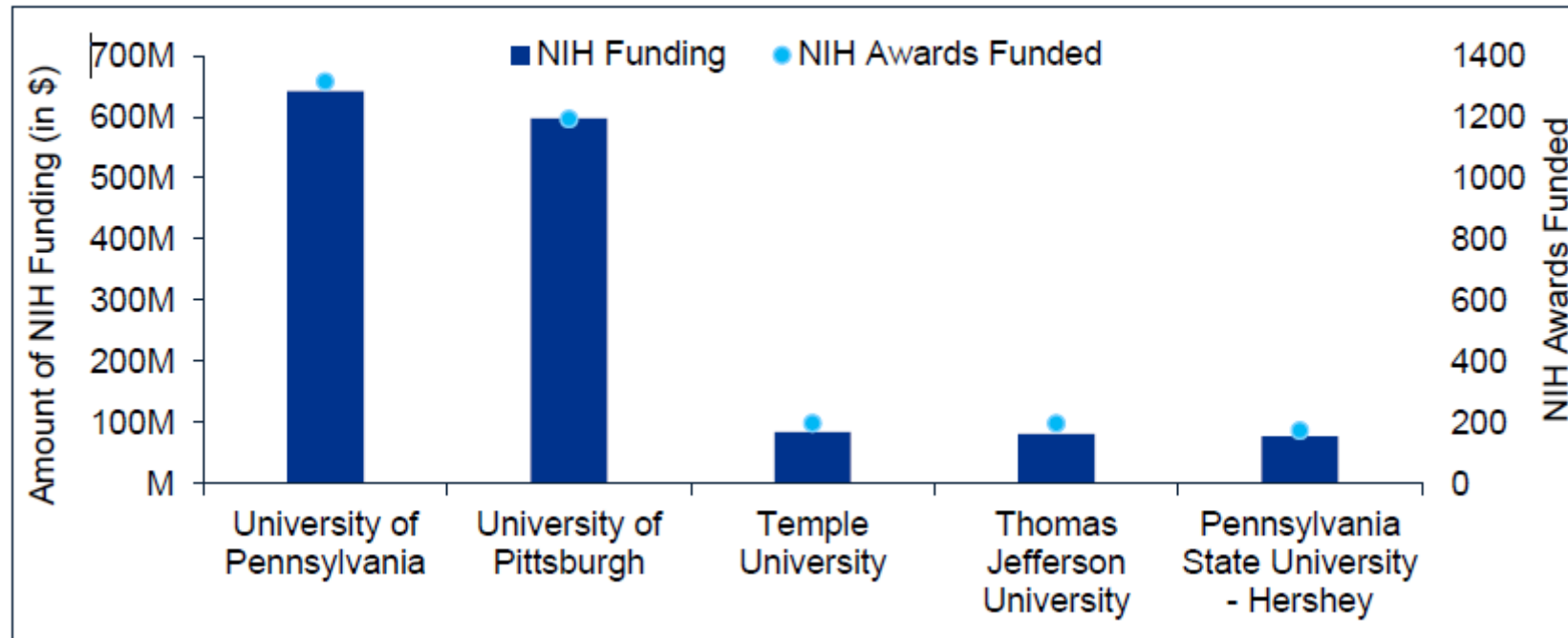
Tax Revenue (Federal, State & Local)

- \$4.9 billion Direct
- \$4.9 billion Indirect
- **\$9.7 billion TOTAL**

Research Funding – NIH

- **\$2.07 billion** in NIH Funding, FY2021

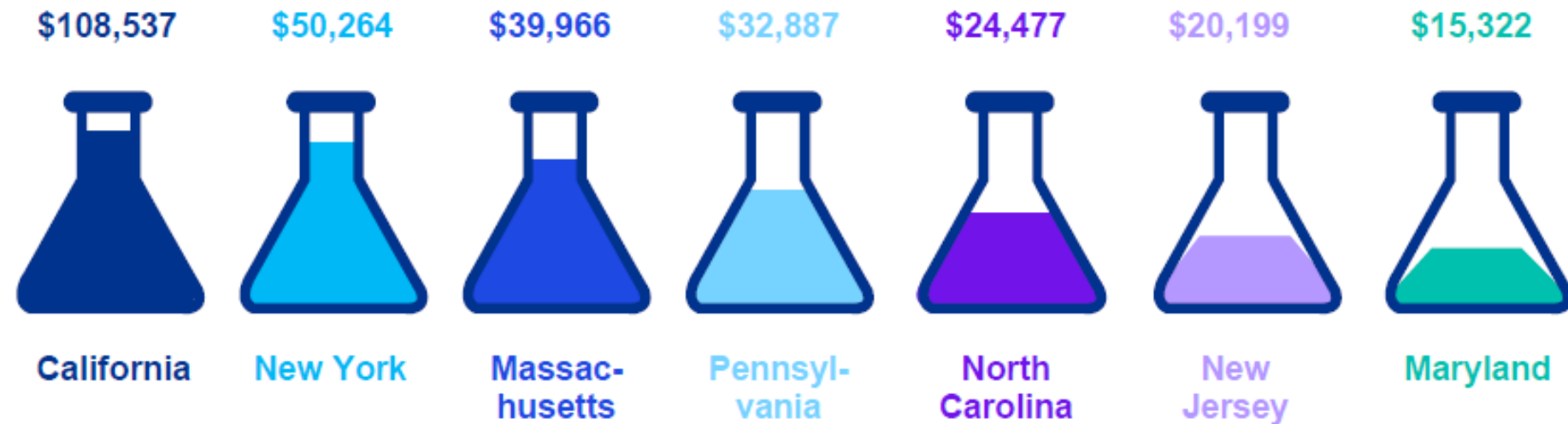
Figure 9: Top Five Pennsylvania Universities that Received NIH Funding by Amount and Number of Awards in FY 2021



Research Funding – NSF

- **\$32.9 million** in NSF Funding, FY2021

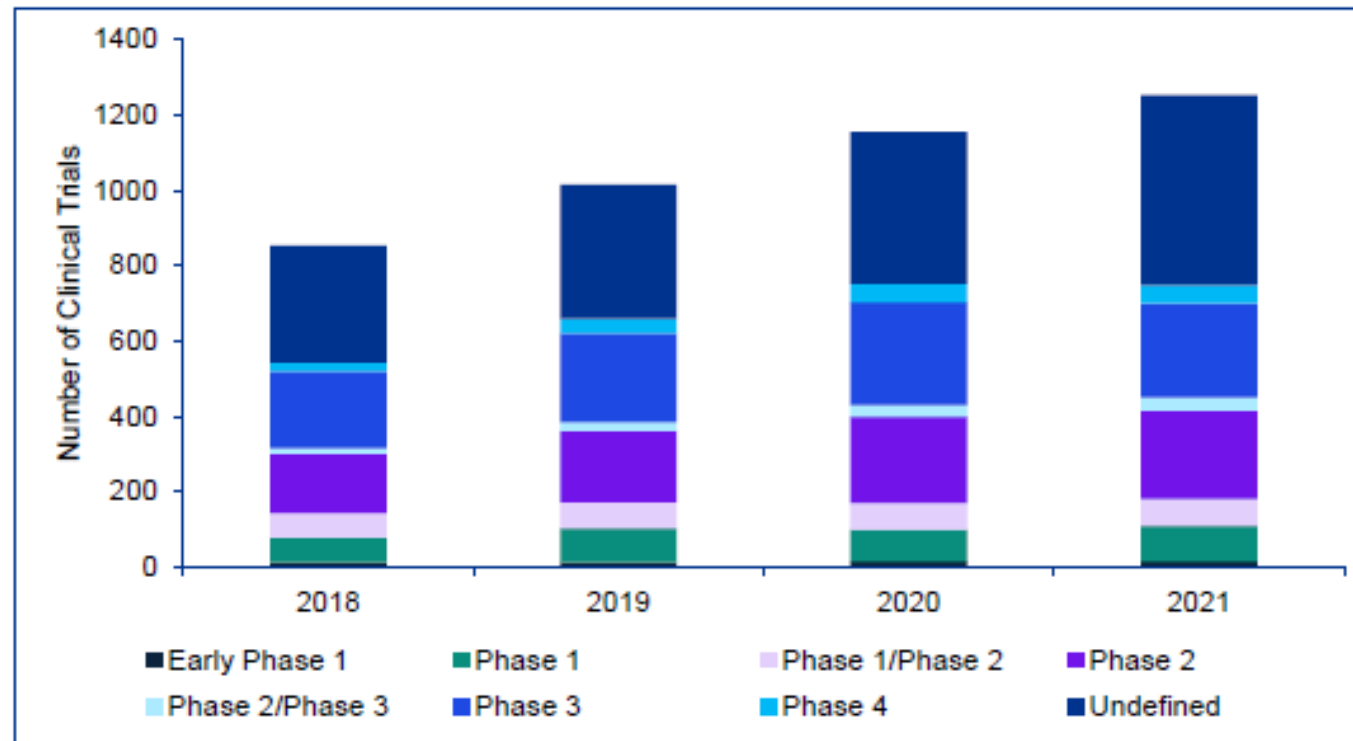
Figure 10: National Science Foundation Research Grants by State in FY 2021 (thousands of dollars)



Clinical Trials

- **347** trials carried out by companies headquartered in PA
- **907** carried out by companies with a facility in PA
- **93** active clinical trials for Orphan Drugs

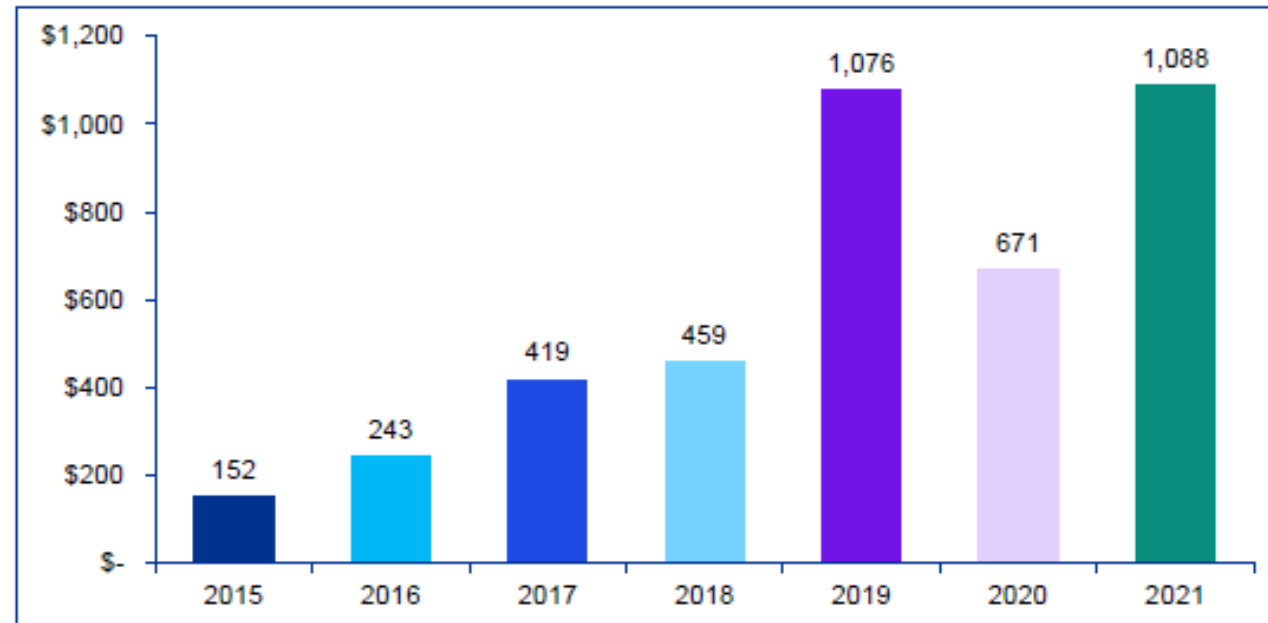
Figure 17: Clinical Trials for Companies with Facilities or Headquarters in Pennsylvania as from 2018 to 2021



Venture Capital

- 2019 PA had third-largest VC funding of all states
 - **\$1.076 billion**
- 2020 VC funding decreased to \$671 million
- 2021 VC funding rebounds to fourth-largest VC funding of all states
 - **\$1.088 billion**

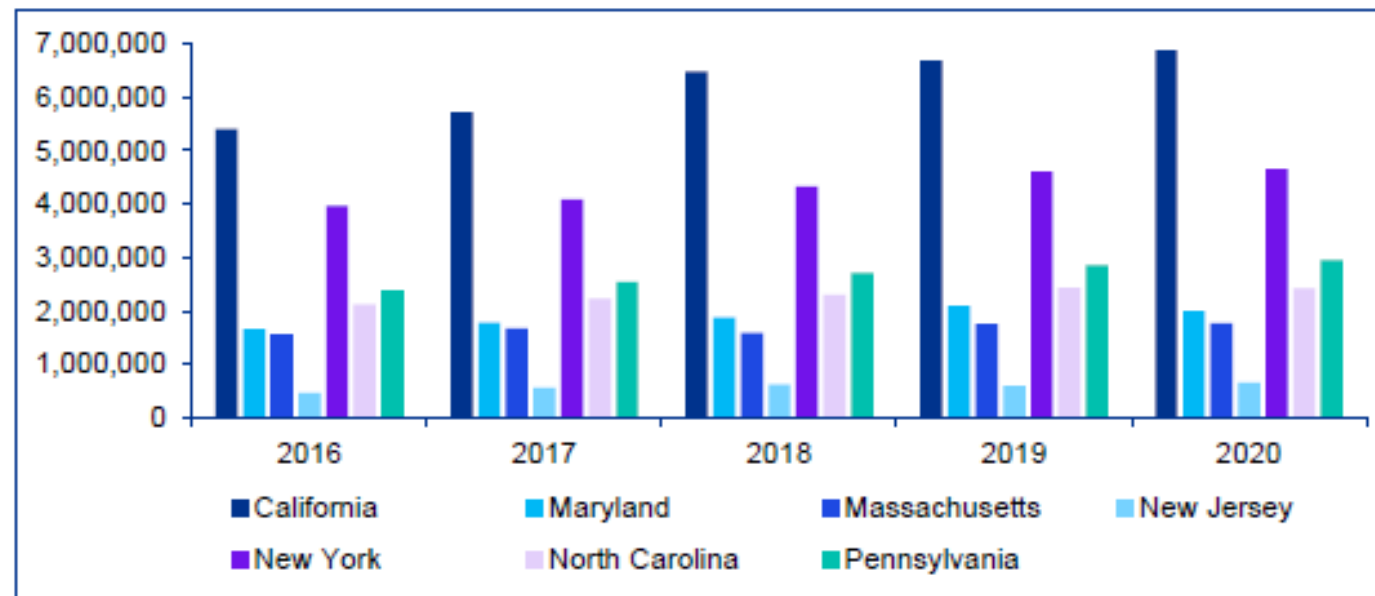
Figure 28: Total Venture Capital Transaction Value for Pharmaceuticals, Biotechnology and Life Sciences in Pennsylvania, USD in Millions, 2015-2021



Academic Contribution

- 2016 to 2020 – the number of degrees (i.e., Bachelor’s or higher) awarded in the life sciences discipline **increased by 24 percent to 2.9 million degrees**
- When compared to peer states, Pennsylvania consistently produces the third-largest number of degrees in the life sciences field
- In 2020, PA institutions **awarded 559 doctoral degrees** in the life sciences discipline
- Compared to peer states, Pennsylvania ranks as fourth in doctoral degree awards

Figure 26: Life Sciences Degrees Awarded by Pennsylvania in Comparison to Peer States from 2016 to 2020



What's Next?



- There are many positives from the report demonstrating Pennsylvania's leadership in the life sciences.
- However, the start-up nature of Pennsylvania's life sciences community requires support and a public policy climate that fosters growth.
- Policies in Harrisburg (and Washington, D.C.) should incentivize investment in research and development, and nurture early-stage companies.

Tenets to Accomplishing That:

- Increase funding and financial incentive programs to advance the research, development, and commercialization of life sciences products
- Support industry-drive talent and workforce development to increase talent attraction, retention, and the creation of customized and inclusive raining solutions
- Remove physical and financial barriers to equipment, facilities, and space for life sciences companies in general, and early –stage startups in particular
- Drive continued private investments by increasing the visibility of Pennsylvania's innovation economy both domestically and internationally

Pennsylvania Life Sciences Industry