



# INDIANA LIFE SCIENCES CAPITAL:

**A summary of 2019 investments**

**2019**



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## PROLOGUE

Indiana's deep and diverse life sciences research and industrial base is an important driver for Indiana's overall economic health. The continuing vitality of this sector depends on innovation which takes not only a significant amount of time and money, but also adherence to regulations to ensure safety and efficacy, along with highly trained, specialized talent. A dynamic and healthy life sciences community requires a solid research base and industry anchors to support the formation and growth of new life science companies. Life sciences innovation is marked by a high failure rate and so we must become comfortable with technical risk and loss of capital as we seek innovation. However, the reward is improved health and a higher quality of life.

The Biotechnology Industry Organization (BIO), with technical assistance from TEconomy Partners, defines life sciences as drugs and pharmaceuticals; medical devices and equipment; research, testing and medical laboratories; biosciences related distribution; and agricultural feedstock and chemicals. In other words, it is "a grouping of diverse industries with a common link – the application of biological scientific knowledge as to how living organisms function to specific products and services involving health care, agriculture and food, and industrial chemicals."<sup>1</sup>

It is important to track and report the amount of capital invested in life sciences companies. It provides a measure of the amount of activity and connectivity within the ecosystem and is an early indicator of future innovation – all important for the growth of our life sciences sector. In 2014, we worked with

Battelle Technology Partnership Practice, now TEconomy Partners, to look at innovation capital from 1993 – 2013. This represented a decade prior to and following the creation of the Indiana Future Fund, a \$73M life sciences fund of fund formed in 2003. We hope to repeat this study in 2024 to look at activity through 2023. In the meantime, we plan to release an annual summary of capital investment in Indiana.

Sources of capital for life sciences development included in this summary are: SBIR/STTR funding, Venture Capital, IPOs and related public offerings, as well as Mergers and Acquisitions. Primary sources include the SBIR award website; Pitchbook Data, Inc. a SaaS company that delivers data, research and technology covering the private capital markets, including venture capital, private equity and M&A transactions; company issued releases; data from BioCrossroads collected under the supervision of Brian Stemme in concert with Indiana Business Research Center at Indiana University; and other public sources. For 2019, Indiana's life sciences companies accessed \$9.1B in capital to grow and support innovation from the following sources:

- \$8.6M SBIR awarded to 21 companies
- \$177M in Venture Capital invested in 37 companies
- \$178.7M accessed through public markets to 2 companies
- \$8.7B+ spent to acquire innovation representing 8 transactions

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<sup>1</sup> Re-examining the Need for Innovation Capital to Advance Life Sciences Development in Indiana." October 2012, page 16

Indiana's life sciences companies raised over \$360 million, excluding the significant funding represented by mergers and acquisitions, in 2019. These funds support innovation to discover and develop new therapies for diseases.

The following pages provide a more in depth look at each of these sources of capital. There is a lot to be excited about, and more work to do. We appreciate all of the contributions from our innovators, those who support the development of their ideas as well as those that provide capital to fuel discovery and development.

Thank you,



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President and CEO  
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Nora Doherty  
Senior Managing Director, BioCrossroads  
Indiana Seeds Funds

**With thanks for their support in  
producing the report:**

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Managing Director, BioCrossroads

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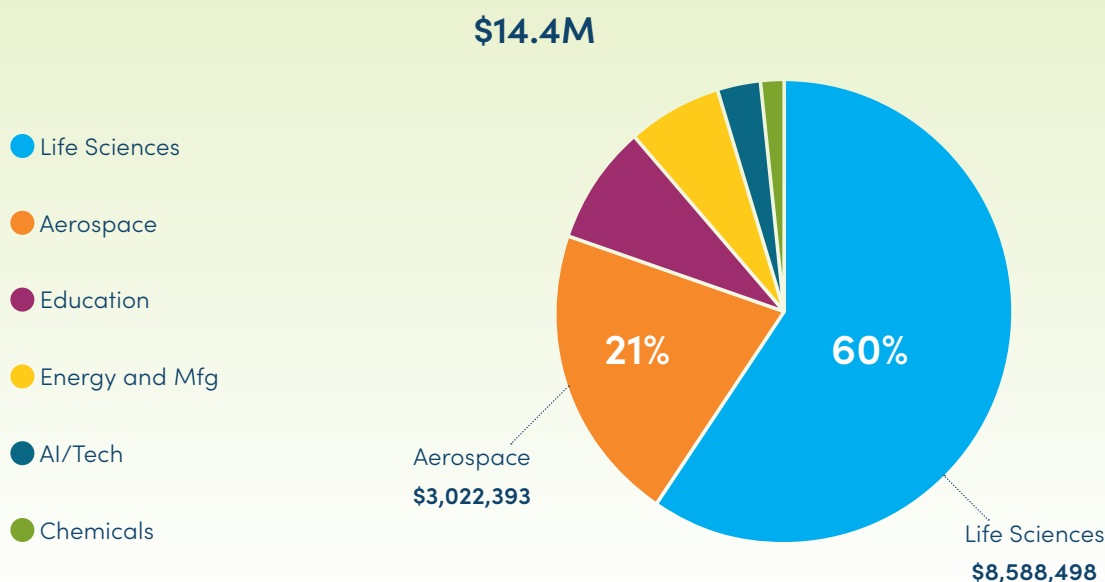
## SBIR/STTR

The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs support scientific excellence and technological innovation by providing competitive grant awards to small businesses and nonprofit research institutions to bridge the gap between performance of basic science and commercialization of resulting innovations. SBIR funding focuses on small businesses supporting R&D that has the potential for commercialization. It is structured with two phases of funding with awards generally up to \$150,000 for 6-month programs in Phase I followed by awards generally up to \$1M for those successful Phase I programs to advance to Phase II for a 2-year period. The STTR program expands funding opportunities with a requirement for the small business to formally collaborate with a research institution in Phase I and Phase II. Funding for these programs comes from federal agencies with extramural

R&D budgets that exceed \$100M. Current participating agencies include Department of Agriculture, Department of Commerce's National Institute of Standards and Technology and National Oceanic and Atmospheric Administration, Department of Defense, Department of Education, Department of Energy, Department of Health and Human Services, Department of Homeland Security, Department of Transportation, Environmental Protection Agency, National Aeronautics and Space Administration, and National Science Foundation.

In 2019, Indiana companies received 55 awards totaling \$14.4M<sup>2</sup>. The area of Life Sciences generated 27 awards to 21 companies totaling \$8.59M representing the largest sector. Aerospace represented the next largest sector receiving funding with 19 awards to 14 companies totaling \$3.02M.

### 2019 Indiana SBIR/STTR Awards



<sup>2</sup> The Award database is continually updated throughout the year. As a result, data for FY19 may not be complete. Data reported is as of 30 March 2020. SBIR -STTR Awards, <https://www.sbir.gov/reports/state-summary>. Accessed 30 March 2020.

| Life Sciences                             | #Awards   | Total              | Ave              |
|---|-----------|--------------------|------------------|
| SBIR/STTR Phase I                         | 20        | \$3,803,119        | \$190,156        |
| SBIR/STTR Phase II                        | 7         | \$4,785,379        | \$683,626        |
| <b>Total Life Sciences</b>                | <b>27</b> | <b>\$8,588,498</b> | <b>\$318,093</b> |
| <b>Total SBIR/STTR Awards for Indiana</b> | 55        | \$14,423,022       | \$262,237        |

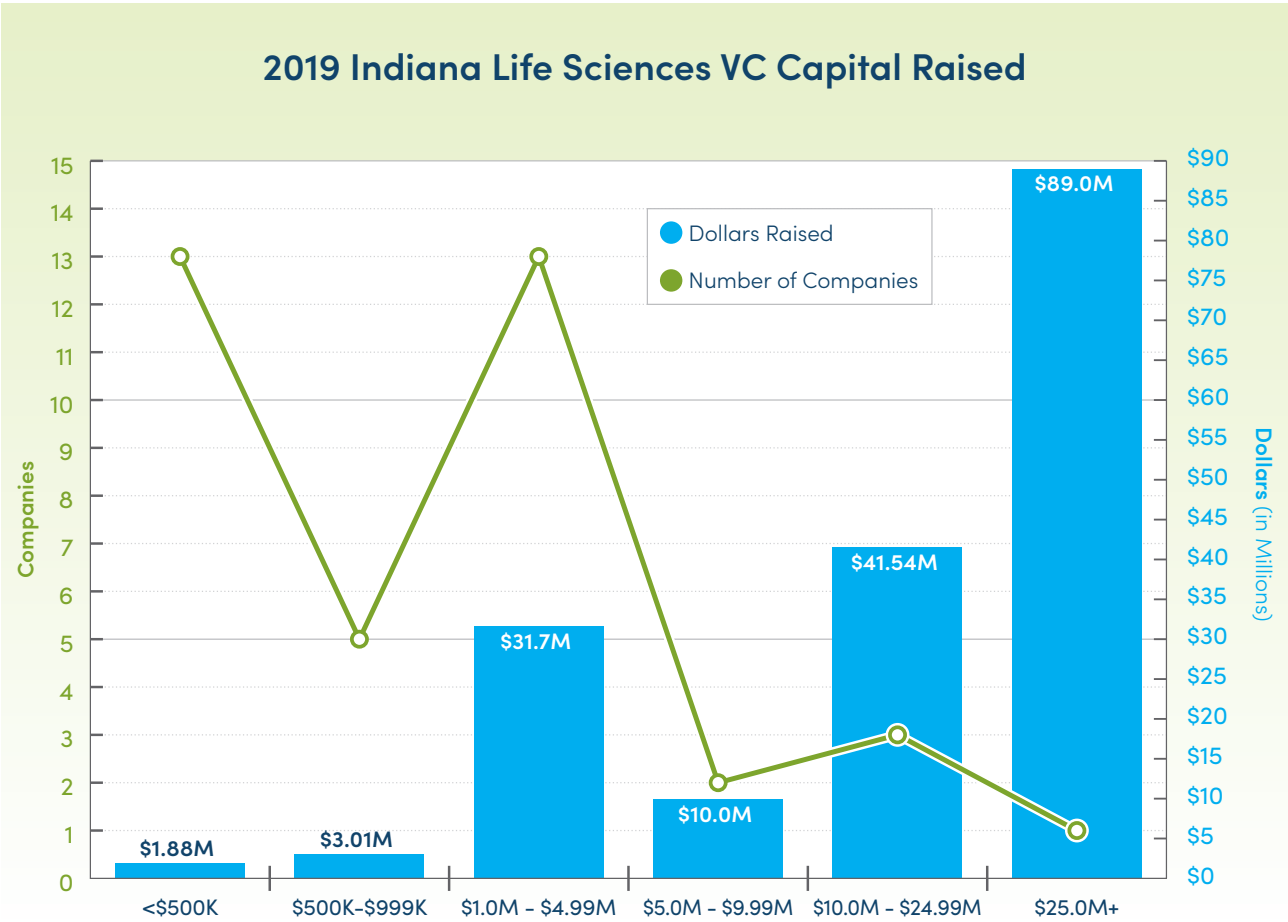
| 2019 SBIR/STTR Awards        |                   |                 |                    |                |
|------------------------------|-------------------|-----------------|--------------------|----------------|
| Company Name                 | Award             | Agency          | Total              | City           |
| Advanced Vascular Therapies  | SBIR II           | Dept of Ag      | \$600,000          | Lafayette      |
| Aeon Imaging                 | STTR I            | HHS             | \$225,856          | Bloomington    |
| Createability Concepts       | SBIR I/SBIR II    | HHS, Dept of Ag | \$487,428          | Carmel         |
| General Optics               | (2) SBIR I        | HHS             | \$374,638          | West Lafayette |
| GeniPhys                     | SBIR I            | NSF             | \$224,873          | Zionsville     |
| JUA Technologies             | SBIR I            | Dept of Ag      | \$100,000          | West Lafayette |
| Medosome Biotech             | SBIR I/(2) STTR I | HHS             | \$673,899          | Bloomington    |
| Megadalton Solutions         | SBIR I            | HHS             | \$149,755          | Bloomington    |
| Monon Bioventures            | SBIR I            | HHS             | \$298,152          | Fishers        |
| NeuroFx                      | STTR I            | HHS             | \$300,000          | Fishers        |
| Novosteo                     | SBIR II           | HHS             | \$546,943          | West Lafayette |
| Nutramaize                   | STTR II           | NSF             | \$747,432          | West Lafayette |
| Omnivis                      | SBIR I            | DOC-NIST        | \$99,999           | West Lafayette |
| Prosolia                     | STTR I            | DOD             | \$149,069          | Indianapolis   |
| Rightfit Analytics           | SBIR I            | NSF             | \$223,788          | West Lafayette |
| Scioto Biosciences           | SBIR II           | HHS             | \$1,150,153        | Indianapolis   |
| Techshot                     | SBIR I            | NASA            | \$124,893          | Greenville     |
| The Bee Corp                 | SBIR II           | NSF             | \$749,999          | Bloomington    |
| Tymora Analytical Operations | (2) SBIR I        | HHS             | \$440,368          | West Lafayette |
| Vasculonics                  | SBIR I            | HHS             | \$217,901          | Bloomington    |
| Vibronix                     | SBIR II           | NSF             | \$703,352          | West Lafayette |
| <b>Total</b>                 |                   |                 | <b>\$8,588,498</b> |                |

# VENTURE CAPITAL

Venture Capital is the most used source of funding to support innovation. It represents funding raised by a company in exchange for equity. Sources of venture capital include not only traditional venture capital funds but also investment from friends and family, angel investors, family offices, private equity and other financial institutions. Earlier this year, Pitchbook and the National Venture Capital Association, with support from Silicon Valley Bank and Carta announced that in 2019 “the venture industry deployed \$136.5B in US-based companies, surpassing the \$130B-mark for the second consecutive year.”<sup>3</sup> Indiana had 37 life sciences companies raise \$177M in 2019. Investments ranged from a low of \$20K to a high of \$89M.

The size of an investment round is indicative of the stage of development of a company. For this report, we have segmented rounds into 6 categories based on size:

- Under \$500K
- \$500K – \$999K
- \$1.0M – \$4.99M
- \$5.0M – \$9.99M
- \$10.0M < \$24.99M
- \$25.0M+



3 Pitchbook. “US Venture Capital Surpasses \$130 Billion in 2019 for Second Consecutive Year.” 14 Jan 2020.



Sources for earliest stage capital, those fundraising rounds under \$1M, are in high demand everywhere and this demand far outstrips supply. One reason for this is due to the inherent risks of investing in early stage companies. At this point of development, the potential for failure may be at its highest as technical, financial, marketing, and execution risks have not been mitigated.

In Indiana, we find that Elevate Ventures was a participant in 12 of the 18 financings disclosed. Purdue University and the University of Notre Dame were the next most common participants, and although not listed, were partners in the Elevate Venture investments in those companies with HQ locations in West Lafayette and South Bend respectively.

| Indiana Life Sciences Deals - 2019 - <\$500K         |                |                  |                    |   |
|--|----------------|------------------|--------------------|---|
| Company Name   | 2019 Financing | Sector           | HQ Location        | Investors   |
| C2 Medical Robotics                                  | \$20K          | Medical Device   | West Lafayette, IN | Elevate Ventures  |
| Enlighten Mobility                                   | \$20K          | Medical Device   | South Bend, IN     | Elevate Ventures  |
| Karyosoft  | \$20K          | HIT              | Carmel, IN         | Comeback Capital, Right Side Capital Management, EV Private Investments, and gener8tor, |
| Lumen Bio  | \$20K          | Ag Biotech       | South Bend, IN     | Elevate Ventures  |
| Spirrow Therapeutics                                 | \$20K          | Therapeutic      | West Lafayette, IN | Elevate Ventures  |
| Total MINDCARE                                       | \$20K          | HIT              | New Albany, IN     | Elevate Ventures  |
| Compact Medical Solutions                            | \$90K          | Medical Device   | Indianapolis, IN   | Undisclosed investor(s)   |
| Inscope Medical Solutions                            | \$230K         | Medical Device   | New Albany, IN     | Elevate Ventures, Green Gage Capital  |
| brightlamp   | \$250K         | HIT              | Indianapolis, IN   | Purdue Ventures   |
| Predictive Wear                                      | \$250K         | Medical Device   | Lafayette, IN      | Elevate Ventures, Purdue Ventures   |
| AgenDx Biosciences                                   | \$300K         | Diagnostic       | South Bend, IN     | Elevate Ventures, University of Notre Dame  |
| Trinity Guardion                                     | \$310K         | Medical Supplies | Batesville, IN     | Undisclosed investor(s)   |
| Safe Keeping   | \$330K         | HIT              | Evansville, IN     | Solidea Capital and undisclosed investors   |
| Indiana Life Sciences Deals - 2019 - \$500K - \$999K |                |                  |                    |   |
| Neurodon   | \$500K         | Therapeutic      | Crown Point, IN    | Undisclosed investor(s)   |
| Wave Therapeutics                                    | \$520K         | Medical Device   | Nashville, IN      | Elevate Ventures and undisclosed investors  |
| Concordance Health Solutions                         | \$600K         | Medical Device   | West Lafayette, IN | Undisclosed investor(s)   |
| Novosteo   | \$600K         | Therapeutic      | West Lafayette, IN | Elevate Ventures, Research Bridge Partners  |
| Poly Group   | \$790K         | Materials        | New Albany, IN     | Undisclosed investor(s)   |

Indiana had 13 life sciences companies complete rounds of financing in the amount of \$1M – \$4.9M in 2019 for \$31.7M in total funding. This amount of funding indicates a company that has matured sufficiently to support a development team and conduct

necessary proof of concept studies in order to discharge technical risk. In addition to Elevate Ventures, funds managed by BioCrossroads, Indiana University and Purdue University were participants in these funding rounds along with angel investors.

| Indiana Life Sciences Deals – 2019 – \$1.0M – \$4.99M |                |                |                  |  |
|---|----------------|----------------|------------------|--|
| Company Name  | 2019 Financing | Sector         | HQ Location      | Investors  |
| Confluence Pharmaceuticals                            | \$1.0M         | Therapeutic    | Carmel, IN       | Elevate Ventures, Foundry Partners, Indiana Philanthropic Venture Fund               |
| NERx BioSciences                                      | \$1.0M         | Therapeutic    | Indianapolis, IN | Elevate Ventures, Indiana Philanthropic Venture Fund and other undisclosed investors |
| Vixiar Medical  | \$1.5M         | Medical Device | Baltimore, MD    | Philips HealthWorks, The Abell Foundation, TEDCO and Emerald Development Managers    |
| FAST BioMedical                                       | \$1.7M         | Therapeutic    | Carmel, IN       | Undisclosed investor(s)  |
| BioPoly   | \$2.0M         | Medical Device | Fort Wayne, IN   | Angel (Individual)   |
| Curvo   | \$2.0M         | HIT            | Evansville, IN   | Elevate Ventures, Snake Run Capital  |
| hc1.com   | \$2.5M         | HIT            | Indianapolis, IN | Undisclosed investor(s)  |
| Olio  | \$2.63M        | HIT            | Carmel, IN       | Innovatemap  |
| AIT Bioscience  | \$2.93M        | Diagnostic     | Indianapolis, IN | Elevate Ventures, undisclosed investors  |
| Toralgen  | \$2.94M        | Therapeutic    | Indianapolis, IN | Elevate Ventures, VisionTech Partners  |
| MBX Biosciences                                       | \$3.0M         | Therapeutic    | Carmel, IN       | BioCrossroads, Indiana Philanthropic Venture Fund, Twilight Venture Partners         |
| Innovative Health Solutions                           | \$4.0M         | Medical Device | Versailles, IN   | Undisclosed investor(s)  |
| Gate Neurosciences                                    | \$4.5M         | Therapeutic    | Indianapolis, IN | BioCrossroads and undisclosed investors  |

Funding rounds in excess of \$5M generally require syndication from funds outside of Indiana. This was the case for each of the six life sciences companies that raised \$5M or more in 2019. In order to attract investment in rounds of this size, companies are competing on a national, if not global, basis. Often times, participants in these rounds have had a previous working relationship with a key

member of the company's executive team, development team or board of directors. Although much less risky than the earliest venture rounds in terms of technical and regulatory risks, the amount of capital at risk in any single venture remains significant. Indiana participants in these rounds were reported as funds managed by BioCrossroads, Cook Regentec, and Elevate Ventures.

| Indiana Life Sciences Deals - 2019 - \$5.0M - \$9.99M   |                |                |                   |   |
|---|----------------|----------------|-------------------|---|
| Company Name  | 2019 Financing | Sector         | HQ Location       | Investors   |
| Ossium Health   | \$5.0M         | Therapeutic    | San Francisco, CA | Manta Ray Ventures  |
| Sexton Biotechnologies                                  | \$5.0M         | Therapeutic    | Indianapolis, IN  | BioCrossroads, Biolife Solutions, Casdin Capital, Cook Regentec                   |
| Indiana Life Sciences Deals - 2019 - \$10.0M - \$24.99M |                |                |                   |   |
| Recovery Force  | \$10.0M        | Medical Device | Fishers, IN       | Vincent Foglia and undisclosed investors  |
| CGeneTech   | \$14.54M       | Therapeutic    | Suzhou, China     | ABCI Securities, Hongtai Capital Holdings   |
| Springbuk   | \$17.0M        | HIT            | Indianapolis, IN  | HealthQuest Capital, Industry Ventures, Sovereign's Capital and Elevate Ventures  |
| Indiana Life Sciences Deals - 2019 - \$25.0M+           |                |                |                   |   |
| Inari   | \$89.0M        | Ag Biotech     | Cambridge, MA     | Acre Venture Partners, EDBI, Flagship Pioneering, Investment Corporation of Dubai |

## PUBLIC COMPANIES

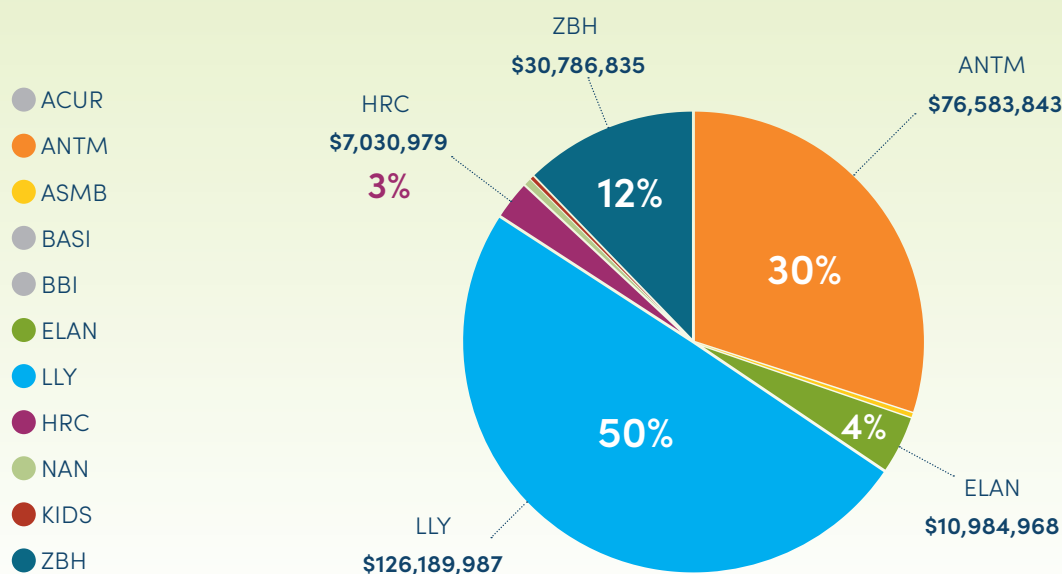
Indiana's strong life sciences sector is anchored by a significant base of public companies. A query to Pitchbook lists 11 life sciences public companies representing \$254B in market cap value as of December 31, 2019. Five companies represent nearly all of the value with two, Eli Lilly and Company at \$126B and Anthem at \$77B, representing 80% of value. This is not a census of all public life sciences companies with operations in Indiana rather it is limited to those that

list an Indiana office or headquarters. In all, these 11 companies achieved a 10% gain in market cap value over 2018. In September 2018, Elanco Animal Health, then a subsidiary of Eli Lilly and Company, announced the pricing of its Initial Public Offering (IPO). In March 2019, Elanco completed its divestiture from Eli Lilly and Company and already represents 4% of the market cap value of Indiana's public life sciences companies as of December 31, 2019.

| Indiana Life Sciences Public Companies |                       |        | Market Cap in 000s |               |               |      |
|--|-----------------------|--------|--------------------|---------------|---------------|------|
| Date Public                            | Name                  | Symbol | 12/31/2019*        | 12/31/19      | 12/31/18      |      |
|  |                       |        | Share Price        | Market Cap    | Market Cap    | +/-  |
| Oct-96                                 | Acura Pharmaceuticals | ACUR   | \$0.30             | \$6,390       | \$2,417       | 164% |
| Oct-01                                 | Anthem                | ANTM   | \$302.03           | \$76,583,843  | \$67,927,173  | 13%  |
| May-14                                 | Assembly Biosciences  | ASMB   | \$20.46            | \$661,573     | \$575,977     | 15%  |
| Nov-97                                 | Bioanalytical Systems | BASI   | \$4.95             | \$53,216      | \$13,012      | 309% |
| Sep-19                                 | BrickellBio           | BBI    | \$4.17             | \$32,527      | \$25,743      | 26%  |
| Sep-18                                 | Elanco                | ELAN   | \$29.45            | \$10,984,968  | \$11,528,156  | -5%  |
| Jan-52                                 | Eli Lilly and Company | LLY    | \$131.43           | \$126,189,987 | \$122,584,771 | 3%   |
| Jan-71                                 | Hill-Rom Holdings     | HRC    | \$105.23           | \$7,030,979   | \$6,268,616   | 12%  |
| May-07                                 | Nanosonics            | NAN    | \$4.45             | \$1,335,767   | \$599,916     | 123% |
| Oct-17                                 | Orthopediatrics       | KIDS   | \$46.99            | \$785,796     | \$507,031     | 55%  |
| Jul-01                                 | Zimmer Biomet         | ZBH    | \$149.68           | \$30,786,835  | \$21,156,423  | 46%  |
| Total                                  |                       |        |                    | \$254,451,881 | \$231,189,235 | 10%  |

\*Data listed as of most recent available via Pitchbook as of date of query: March 11, 2020. ACUR and BBI data as of 9/30/19

## Indiana Life Sciences Public Companies – \$254B Market Cap (Figures in 000s)



For life sciences companies, the public market can also be a source of capital to fund discovery and development, including clinical trials. In 2019, there were two companies that used public markets to access capital: Brickell Biotechnologies and Assembly Biosciences resulting in aggregate funding of \$178.7M. In September 2019, Brickell Biotechnologies completed a reverse merger with Vical with approximately \$35M in cash. This merger also resulted in a new life sciences public company to Indiana as the company has established an office in the state with plans to expand operations. Following the merger, the

company's trading symbol changed from VICL to BBI and the funds are intended to be used to fund clinical trials, nonclinical studies, research and development and general corporate purposes. In December 2019, Assembly Biosciences announced and completed a public offering with aggregate gross proceeds of approximately \$143.7M, before deducting underwriting discounts and commissions and other offering expenses payable by Assembly. Assembly intends to use the net proceeds from the sale of the common stock to fund clinical trials, nonclinical studies, research and development and for general corporate purposes.

| Indiana Life Sciences Public Offerings 2019 |                      |        |           |
|---|----------------------|--------|-----------|
| Date  | Name                 | Symbol | \$ Raised |
| Dec-19                                      | Assembly Biosciences | ASMB   | \$143.7M  |
| Sep-19                                      | Brickell Biotech     | BBI    | \$35.0M   |
| Total                                       |                      |        | \$178.7M  |

## MERGER AND ACQUISITION ACTIVITY

Eight transactions completed in 2019 show activity of more than \$8.7B, not including those transactions where figures were not disclosed. The activity was dominated by Eli Lilly and Company purchase of Loxo Oncology for \$8B with the next largest deal at \$485M with Covance's acquisition

of Engigo's non-clinical research services followed by Elanco's acquisition of Aratana for \$245M. 2020 looks to be dominated by Elanco's planned acquisition of Bayer Animal Health for \$7.6B announced in August 2019 with an expectation to close in mid-2020.

| Indiana Life Sciences Acquisitions (Purchase price in 000s)  |               |                    |           |
|--|---------------|--------------------|-----------|
|  |               | Sector             | Completed |
| Beckman Coulter acquired LabCyte                             | not disclosed | Pharma             | Jan-19    |
| Eli Lilly and Company purchased Loxo Oncology*               | \$8,000,000   | Pharma             | Feb-19    |
| Rehab Medical acquired Cork Medical                          | not disclosed | Med Device         | Feb-19    |
| Elanco acquired Aratana Tx                                   | \$245,000     | AgBio              | Jul-19    |
| Covance acquired Engigo's non-clinical research services     | \$485,000     | Pharma             | Apr-19    |
| BASi acquired Smithers Avanza Toxicology Services            | \$1,200       | Pharma             | May-19    |
| Eli Lilly and Company purchased assets of Hydra Biosciences* | not disclosed | Pharma             | Jun-19    |
| BASi acquired Pre-Clinical Research Services                 | \$2,500       | Pharma             | Dec-19    |
| <b>Total</b>   |               | <b>\$8,733,700</b> |           |

\*Announced in December 2018



