

# THE INNOVATIVE BIOPHARMACEUTICAL INDUSTRY'S SUPPORT FOR STEM EDUCATION IN: ILLINOIS



The Biopharmaceutical Industry's Sustained Commitment to Inspiring and Advancing Tomorrow's STEM Workforce

*A high-skilled technical workforce that is proficient in science, technology, engineering, and mathematics (STEM) is increasingly important to sustained economic growth and U.S. global competitiveness. However, as the U.S. continues to lag behind other countries in terms of STEM literacy and expertise, there are legitimate concerns in the nation's ability to produce enough qualified workers to meet the demands of the global knowledge-driven, STEM-intensive economy and to develop workers with the relevant skills needed for the jobs of the future. **Inspiring and developing the next generation of STEM talent is critical to the economic success of Illinois.***

STEM talent is especially important to the success of the nation's biopharmaceutical industry, one of the economy's most innovative sectors employing more than five times the level of STEM workers compared with the overall U.S. economy. **In Illinois, the biopharmaceutical industry directly employs 40,764 and has a total economic impact of nearly 247,000 state jobs and nearly \$73.0 billion in total economic output.**<sup>1</sup>

**Illinois will need to fill more than 376,000 STEM jobs by 2028.** However, an analysis of a series of STEM education indicators finds that Illinois students generally rank in the bottom half of states in terms of their proficiency in STEM.

**To help inspire and develop the next generation of STEM workers, the innovative biopharmaceutical industry supports 7 programs in Illinois and 10 programs nationwide.**

Number of STEM Programs Supported by the Biopharmaceutical Industry in Illinois<sup>2</sup>

**7**

Number of National STEM Programs Open to IL Students and Teachers

**10**

Projected STEM jobs to Fill in IL by 2028<sup>3</sup>

**376,180**

National Assessment of Educational Progress State Ranking for IL Students<sup>4</sup>

	4th Grade	8th Grade
Math	<b>37</b>	<b>22</b>
Science	<b>35</b>	<b>34</b>

Share of Graduating IL High School Students Interested in STEM Major or Career<sup>5</sup> (U.S. = 48%)

**42%**

Biopharmaceutical Industry Economic Footprint in Illinois<sup>6</sup>

**40,764**  
Direct Jobs

**\$73.0 B**  
Total Output

## Biopharmaceutical Industry-Supported STEM Education Programs in Illinois

Through its long-lasting partnership with Perspectives IIT Math & Science Academy, a school in Chicago's Bronzeville community that features a rigorous math and science curriculum, **Lundbeck** provides a series of wrap-around services that encourage STEM education and student success:

- **Annual scholarships** for college-bound Perspectives seniors who are interested in STEM, which helps these promising students and future STEM leaders defray the costs of their college education and can be used to cover school-related expenses such as books.
- **Financial support** for the school's general operating budget, infrastructure improvements at its science labs, fundraising for its annual gala, and other resources such as new academic programs and curricula.
- **High School Internships**, where students learn about the pharmaceutical industry and how a therapy goes from idea to patient. Through this program, some employees serve as direct mentors, acting as role models, developing deep relationships with students, and providing frequent guidance. With a goal of teaching students about aspects of the company (e.g., therapeutics, product marketing), other employees serve as subject matter experts, helping spark further student interest in STEM.
- **STEAM Ahead Initiative**, where Lundbeck's leadership is helping to make Perspectives the only "STEAM" (Science, Technology, Engineering, Arts and Math) school in the Greater Bronzeville area.
- **Career Day**, where a group of employees visit the school to participate. Lundbeck professionals participate in panels, share their career stories and offer encouragement to students interested in health and science careers.
- **A Public Transportation Fund**, to assist the many students at Perspectives who lack the financial resources to purchase bus/train tickets to get to and from school each day.
- **A Device Buy-Back Program**, where employees at all levels of the company can – and frequently do – choose to donate directly to Perspectives as a way to "purchase" retired mobile phones or tablets.

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## Industry-Supported STEM Education Programs Nationwide

With an emphasis on student engagement, teacher development, and dynamic learning opportunities, PhRMA members **Amgen, AstraZeneca, Bayer, Genentech, and Johnson & Johnson** also support 10 STEM education programs nationwide. Read more about these programs [here](#).

- 1 *The Economic Impact of the U.S. Biopharmaceutical Industry: 2017 National and State Estimates, PhRMA and TEconomy Partners, December 2019.*
- 2 *PhRMA-TEconomy "The Biopharmaceutical Industry's Sustained Commitment to Inspiring and Advancing Tomorrow's STEM Workforce" 2020.*
- 3 *TEconomy's Analysis of Projections Managing Partnership Occupational Employment Projections for 2018-2028. Projections data reflect the 2016-26 period for the following states: AL, AZ, CT, KS, KY, MA, NM, OK, TX, VT, WA, WV.*
- 4 *U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2019 Mathematics Assessment and 2015 Science Assessment.*
- 5 *Percentage of ACT-Tested High School Graduates Scoring Expressing Interest in STEM Majors, Occupations, and/or Activities; ACT: The Condition of STEM 2017 State Profiles.*
- 6 *The Economic Impact of the U.S. Biopharmaceutical Industry: 2017 National and State Estimates, PhRMA and TEconomy Partners, December 2019.*