NON-PROFIT MassBioEd **LIFE SCIENCES WORKFORCE CONFERENCE** GOVERNMENT **Navigating Expansion and Contraction** Building a robust life sciences workforce for the long game INDUSTRY **4 SECTORS UNITE...**

ACADEMIA

to advance the Life Sciences Ecosystem in Massachusetts

June 11, 2024 | Boston University

2024 Massachusetts Life Sciences Employment Outlook

Key Findings and Recommendations

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MASSACHUSETTS BIOTECHNOLOGY EDUCATION FOUNDATION



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Massachusetts Life Sciences Employment Outlook 2024

Prepared by TEConomy Partners, LLC for Massachusetts Biotechnology Education Foundation





June 2024



• Headlines

- Life Sciences employment today
- Future workforce projections
- Talent pipeline compared to demand
- Core recommendations





Massachusetts continues to be a Hub for the life sciences



- 141,000 life sciences jobs in Massachusetts
- 3,471 new life sciences jobs in 2023
- 54,000 life sciences jobs created in the last 10 years
- Projected 10-year growth is strong: 32% or nearly 38,000 net new jobs by 2033





Life Science Industry Sector Employment Distribution

Industry Sectors Associated with Life Sciences

Biopharma & Medical Labs	Medical Devices & Equipment	Hospitals	Colleges & Universities
73%	18%	7%	3%
of employment	of employment	of employment	of employment





Robust Life Sciences Growth for MA Over the Past Decade

- Added 54,000 jobs over the last 10 years
- In 2023, 140,952 life sciences jobs in the state
- 2023 mirrors prepandemic average growth
- Life sciences industry grew at an annual rate of nearly 7.8% from 2020 to 2022

MA Life Science Industry Employment Trends 2010-2023







MA Life Sciences Job Postings Activity Significantly Decreased from 2022 to 2023

A Return to 2021 Activity Levels

Life Sciences Job Postings, 2021-23



2021

2022

2023





Amidst Slower Growth Environment, MA Life Sciences Industry Still Outpacing Broader U.S. Trends

- Life Sciences employment in MA has grown by 11.6% since 2021 compared to total employment growth of 4.9%
- MA growth of 13.8 % has outpaced the 7.6% of the US





56% of Postings Are Accessible to a Bachelor's Degree or Less



Education Requirements in Life Sciences Job Postings, 2021-23





Industry Growth Continues Across Massachusetts

Growth in life sciences jobs from 2021-2023

- Middlesex County 12.6% growth
- Suffolk County 21.9% growth
- Worcester County 14.1% growth
- Essex County- 6.5% growth
- Norfolk County 11.8% growth





Geographic Profile: Worcester County



Worcester County's life sciences workforce expanded by more than 800 jobs over 2021-2023, a 14% growth in employment

Key Life Sciences Employers

- AbbVie
- Bristol Myers
 Squibb
- uBriGene
- WuXi Biologics







Employment Projections Expect Continued Growth, Led by Biopharmaceuticals

Life Sciences Employment Projections, Indexed to 2023 Employment

Projected 10-year growth of nearly 38,000 net new jobs by 2033





The next 10 years: Projected Job Growth Trends in Massachusetts

Projected Occupational Growth Trends Within Biopharmaceuticals, 2023-33

Scientists	27%	Business &	35%
Management	31%	Financial	
Computing & IT	47%	Scientific Technicians	31%
Engineering & Architecture	38%	Math & Statistics	53%





Projected Job Growth Trends Within Biopharmaceuticals, 2023-33



Talent Pipeline5% Growth in the MA Life Sciences Degrees



16

MA Public and Private Colleges Produce a Significant Number of Life Sciences of Graduates







Demand for workers continues to exceed supply



Projections indicate **5,720 average annual job openings** over the next decade

State educational institutions productivity may be **limited to 3,497 new workers annually**





Examples of the Talent Pipeline Gap now and in the Future

Job Opening Trends for MA Primary Life Sciences Occupations vs. "Supply" of New Higher Education Degrees Generated

Life Sciences Occupational Groups	Degree Levels Required	MA Average Annual Job Openings, 2021-23	MA Average Annual Degree Graduates in Relevant Fields, 2021-2023	GAP	Projected MA Average Annual Job Openings, 2023-2033
Life Scientists	Masters & Doctorate	2,960	1,846	1,114	2,752
Life Sciences Technicians	Associate's & Bachelor's	684	110	574	807
Medical & Clinical Lab Technicians	Associate's & Bachelor's	1,510	772	738	1,326





Biopharmaceuticals & Medical Labs Only Capturing 1 in 5 Life Sciences & Chemistry Degrees in Massachusetts



MA Produces High Levels of Specialized Life Sciences Graduates Supporting the Industry

Ongoing specialization: MA produces more than 10% of the nation's supply of biostatistics and bioinformatics program graduates, and more than 15% of the nation's supply of epidemiology program graduates







Recommendations

Educators, Industry, Nonprofits, and Government can accomplish more together to maintain Massachusetts' position as the world's leading Life Science Hub.





Recommendation: Grades K-12, Grades 9-16

Continue to invest in K-12 STEM education to excite under-represented students through handson learning to expand the number of students interested in STEM.

Invest in early-career connections for Grades 9-16 to encourage STEM persistence at 2- and 4-year colleges, in programs such as Early College, Dual Enrollment, MassTransfer, STEM Starter Academy, and Summer Transfer Academies.





Recommendation: Exposure to new technologies

Exposure to new technologies transforming the industry.

Education and Government stakeholders should embed topics such as:

- Generative Al
- Continuous bioprocessing
- Cell and gene therapies into K-16 STEM programs and highlight relevancy to the life sciences careers.





Recommendation: Assess DEI efforts across academia and industry; invest in initiatives that demonstrate progress







MA

U.S

Recommendation: Multidisciplinary skills-building

Enlist industry expertise to expand multidisciplinary skills-building programs for current students and the incumbent workforce in life sciences to meet emerging industry demand.





Recommendation: On ramps for Untapped Talent

Identify opportunities to build and strengthen "onramps" for underutilized STEM workforce segments to increase access to a broader scientific talent supply.

Expand multidisciplinary skills-building programs for current students, career-seeking adults, and the incumbent workforce in life sciences to meet emerging industry demand.





Conclusion and to Learn More



Download the full report, including full data set, recommendations, regional analysis, and more...





