



Biopharma techs face tougher job qualifications

Employers backed associate's degree programs, but now many prefer bachelor's-level training

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Jim Wilson/New York Times/File 2013

By Jonathan Saltzman | GLOBE STAFF

Nearly a decade ago, employers in Massachusetts' booming biopharmaceutical industry got together with representatives of the state's community colleges to make sure that graduates of biotechnology programs would have the skills to land entry-level jobs.

Biotech executives told the colleges that their classes needed to prepare recipients of two-year associate's degrees and one-year certificates to work as technicians who could perform such tasks as culturing cells, operating centrifuges, and preparing chemical solutions.

The companies helped to rank programs now at 15 community colleges as platinum, gold, or silver — based on how well they were readying students for work in the biotech industry.

But the advice has not resulted in job opportunities for many of the schools' graduates.

Despite a surge in job openings, Massachusetts biotechs increasingly are hiring people as technicians only if they have completed four-year programs in the field, according to a report by the MassBioEd Foundation, a nonprofit organization that criticized the trend.

From 2011 to 2016, the number of technician jobs requiring bachelor's degrees increased 44 percent, while those requiring associate's degrees rose by only 16 percent, said the foundation, which is an affiliate of the Massachusetts Biotechnology Council.

“Effectively, industry, having just helped establish the desired core competencies for associate's degree holders, raised the job requirement bar to the bachelor's degree level,” the report says.

Peter Abair, the executive director of MassBioEd, said industry leaders need to recognize that the programs they themselves helped design are turning out qualified job candidates.

“These are not high-risk hires,” Abair said in an interview.

The report doesn't plumb the cause of the disconnect. But employers evidently believe graduates with bachelor's degrees have better critical thinking skills and a deeper understanding of science, the study says, even though people with associate's degrees and certificates are more than qualified to work as technicians.

Those jobs typically have starting salaries of between \$43,000 and \$55,000 in Massachusetts, according to MassBioEd.

The findings come as little surprise to Laura Rubin, dean of STEM and education at North Shore Community College, which has a biotechnology program in Danvers.

Rubin said that North Shore designed its program to meet the needs of biotechs, but job postings seek out graduates with bachelor's degrees.

"The goal post changed when we were doing what [employers] wanted us to do," she said.

As a result, Rubin said, North Shore is encouraging students who earn certificates or associate degrees to seek bachelor's degrees.

Benjamin Benton, biotechnology program coordinator at Quinsigamond Community College, said community colleges "still need to demonstrate to biotechnology hiring managers that our students do indeed have the cutting-edge skill sets to be successful team members."

One thing that both employers and community college officials agree on is that students who land internships while working on associate's degrees fare better than those who don't.

Kate Sweeney, dean of STEM at Middlesex Community College, said her school's robust internship program has placed students at companies with Massachusetts operations from Biogen Inc. to MilliporeSigma to Novartis.

“What usually happens with our students is they have an internship in biotech and, in many cases, that internship turns into a job,” she said. Middlesex’s biotech program, Sweeney said, boasts a 100 percent employment rate for students who earn an associate’s degree or certificate.

Among the employers who say they have been satisfied with the community college student they have hired is Shire PLC. The company makes drugs for rare diseases and has more than 3,000 workers in Massachusetts, making it the state’s second-largest biopharma employer.

Aron Clarke, who oversees training in technical operations at Shire — it has operations in Cambridge and Lexington and is headquartered in Ireland — said the company recognizes that such graduates are often older than students with bachelor’s degrees, have sometimes juggled part-time jobs and family responsibilities, and have deep roots in the community.

The MassBioEd report, which was funded with a grant from the US Department of Labor, recommended that hiring managers recognize the skills of community college graduates and increase the availability of internships.

But it also contains recommendations for the schools, including making it easier for students with associate’s degrees to transfer to four-year schools.

44%

Increase in the number of technician jobs in biotech requiring bachelor’s degrees from 2011 to 2016, according to the MassBioEd Foundation

16%

Increase in the number of technician jobs requiring **associate’s degrees**

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