

New Hampshire

Economic Conditions



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Biotechnology and the role it plays in New Hampshire

Recent scientific research and analysis has been focusing on the growing importance of biologics. According to the U.S. Department of Labor, industries related to biotechnology have been experiencing employment increases of over 12 percent per year since 2000.¹ The rapid pace of change in the technologies used challenges workers in the biotechnology industry. These occupations continuously need to upgrade their skills to perform their duties.

There is no one specific “biotechnology industry” so to speak. It ranges from the research and development companies included under the *Professional and technical services* industry group, to laboratory testing facilities which are part of *Ambulatory health care services*, to mass production of pharmaceuticals from *Manufactur-*

Because there are many types of Manufacturing companies, the NAICS (North American Industry Classification System) organizes the different industries. Under the main category of Manufacturing is the Chemical manufacturing industry group (NAICS code 325). This is where the state's concentration of biological manufacturing is included as the sub group of Pharmaceutical and medicine manufacturing.

Likewise with Professional and technical services, the companies are organized by the specialty service they provide. These companies related to biologics are found under the Scientific and research development services group.

NAICS Industry Establishments

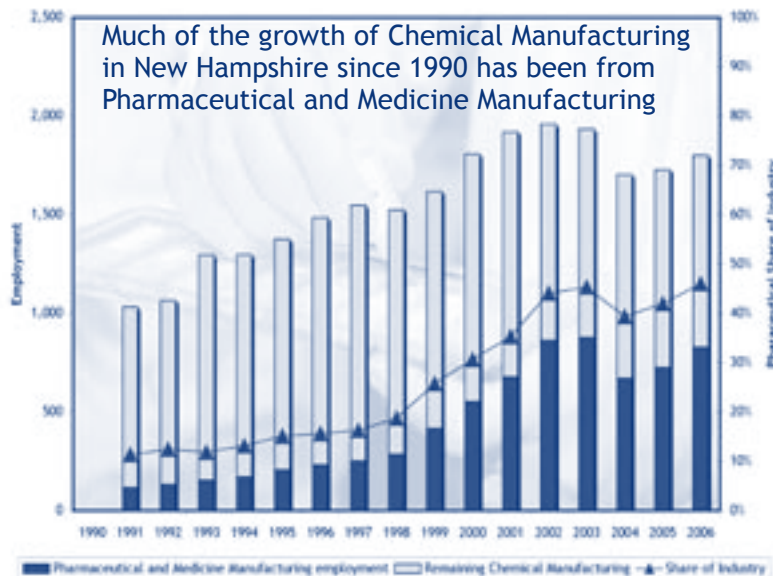
32-33 Manufacturing

- 325 Chemical manufacturing
- 3254 Pharmaceutical and medicine manufacturing
- 32541 Pharmaceutical and medicine manufacturing
- 325411 Medicine and botanical manufacturing
- 325412 Pharmaceutical preparation manufacturing
- 325413 In-vitro diagnostic substance manufacturing
- 325414 Biological product (except diagnostic) manufacturing

54 Professional and technical services

- 541 Professional and technical services
- 5417 Scientific research and development services
- 541710 Research and development in the physical, engineering, and life sciences
- 541720 Social science and humanities research

ing. In New Hampshire the two largest concentrations of biotechnology companies are related to biological products made and used in medicine, mostly pharmaceuticals in *Manufacturing*, and the research and development companies in *Professional and technical services*.



Employment
 Employment in the *Pharmaceutical and medicine manufacturing* in New Hampshire has been growing at a rapid pace since the early 1990s. This industry group made up barely 10 percent of the total *Chemical manufacturing* employment at that time, just over 100 workers. Since then, the industry

group has grown to account for nearly half of this industry's employment by 2006, with more than 800 workers.

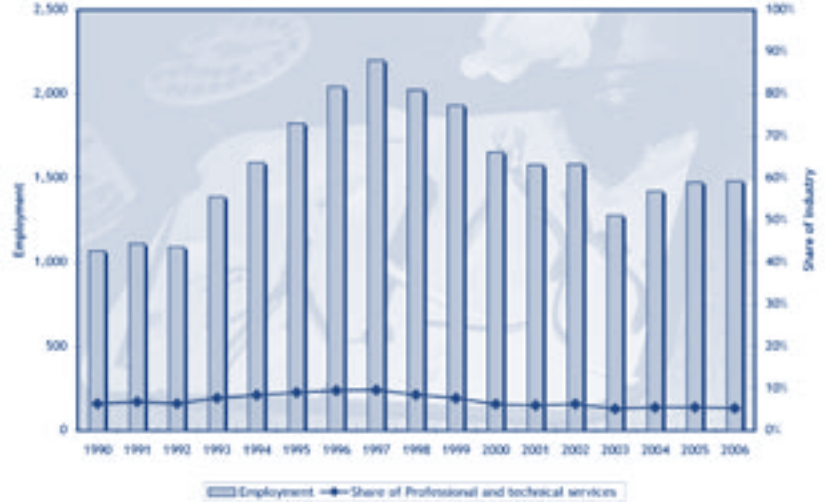
In the *Professional and technical services* sector, employment in the *Scientific research and development services* group has also been growing, although not at the same rate as biological *Manufacturing* jobs. The 1,069 jobs in 1990 within this industry grew to 1,481 by 2006. Even with an increase just shy of 40 percent during that period, *Scientific research and development services* made up roughly five percent of employment in the *Professional and technical services* industry throughout the period.

Occupations

The multiple specialties and the wide range of expertise necessary in the biotechnology industry are driving factors for the type of occupations found there. They also play a role in the diversification of these occupations, there is no significant dominant concentration of any one occupation more than another.

Because New Hampshire has a small portion of companies that are considered biotechnology industries, there are many barriers to discussing the specific concentrations of occupations, on account of possibly violating confidentiality regulations. Because of this local restriction, the concentrations of occupations were obtained from the U.S. Department of Labor, Bureau of Labor Statistics. While this source does help disclose the types of occupations found in the industries, it does not neces-

Although *Scientific Research and Development* employment has increased, its share of the *Professional and Technical Services* industry has remained close to 5 %



sarily reflect the same concentrations of those jobs that would be found locally.

Within the *Pharmaceutical and medicine manufacturing industry*, one occupation regularly employed was Chemists. In New Hampshire the median wage for this occupation was \$26.91.² Microbiologists, Industrial engineers, and different types of Managers in the industry all had median wages of over thirty dollars an hour. Also employed are occupations common among most *Manufacturing* companies, Sales representative, and Supervisors with wages higher than twenty dollars and hour. Of the occupations listed here, nine require a formal education.

Occupations within Pharmaceutical and Medicine Manufacturing
NAICS 3254

SOC Code	Occupation	National Share of Industry (%)	New Hampshire median wage
00-0000	All Occupations	100.00%	\$14.66
19-2031	Chemists	4.50%	\$26.91
51-9011	Chemical equipment operators and tenders	3.77%	na
19-1042	Medical scientists, except epidemiologists	3.61%	na
51-9023	Mixing and blending machine setters, operators, and tenders	3.15%	\$14.14
19-4021	Biological technicians	3.01%	\$16.42
51-9061	Inspectors, testers, sorters, samplers, and weighers	3.00%	\$15.00
51-1011	First-line supervisors/managers of production workers	2.58%	\$23.12
41-4011	Sales representatives, wholesale and manufacturing technical and scientific products	2.25%	\$29.04
13-1199	Business operations specialists, all other	2.14%	\$21.47
49-9042	Maintenance and repair workers, general	1.89%	\$15.01
51-9012	Separating, filtering, clarifying, precipitating, and still machine setters, operators, and tenders	1.66%	\$17.62
53-7062	Laborers and freight, stock, and material movers, hand	1.66%	\$10.93
11-9199	Managers, all other	1.53%	\$37.50
19-1021	Biochemists and biophysicists	1.48%	na
11-3051	Industrial production managers	1.24%	\$37.38
11-1021	General and operations managers	1.22%	\$34.68
43-5071	Shipping, receiving, and traffic clerks	1.22%	\$13.27
19-1022	Microbiologists	1.18%	\$32.45
43-5061	Production, planning, and expediting clerks	1.07%	\$18.00
17-2112	Industrial engineers	0.82%	\$32.76
43-3031	Bookkeeping, accounting, and auditing clerks	0.81%	\$14.68
13-1081	Logisticians	0.27%	\$26.06

na = Information not available because of confidentiality
Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics Program, May 2005 National Industry-Specific Occupational Employment and Wages Estimates. www.bls.gov/news.release/naics4_22406.htm

Occupations within Scientific Research and Development Services
NAICS 5417

SOC Code	Occupation	National Share of Industry (%)	New Hampshire median wage
00-0000	All Occupations	100.00%	\$14.66
19-1042	Medical scientists, except epidemiologists	4.21%	na
15-1032	Computer software engineers, systems software	3.68%	\$41.48
43-6011	Executive secretaries and administrative assistants	3.60%	\$16.93
11-1021	General and operations managers	2.20%	\$34.68
17-2141	Mechanical engineers	2.10%	\$30.74
13-1199	Business operations specialists, all other	1.97%	\$21.47
15-1031	Computer software engineers, applications	1.93%	\$35.83
43-9061	Office clerks, general	1.90%	\$12.71
43-6014	Secretaries, except legal, medical, and executive	1.63%	\$12.67
11-9199	Managers, all other	1.29%	\$37.50
13-1111	Management analysts	0.99%	\$34.34
15-1099	Computer specialists, all other	0.98%	\$25.36
15-1021	Computer programmers	0.96%	\$25.07
17-3027	Mechanical engineering technicians	0.82%	\$19.58
11-3031	Financial managers	0.76%	\$34.91
43-3031	Bookkeeping, accounting, and auditing clerks	0.76%	\$14.68
15-1011	Computer and information scientists, research	0.65%	\$46.22
11-1011	Chief executives	0.56%	\$56.12
17-2131	Materials engineers	0.32%	\$33.16
17-2199	Engineers, all other	na	\$33.64
17-3029	Engineering technicians, except drafters, all other	na	\$19.21
19-1099	Life scientists, all other	na	\$20.17

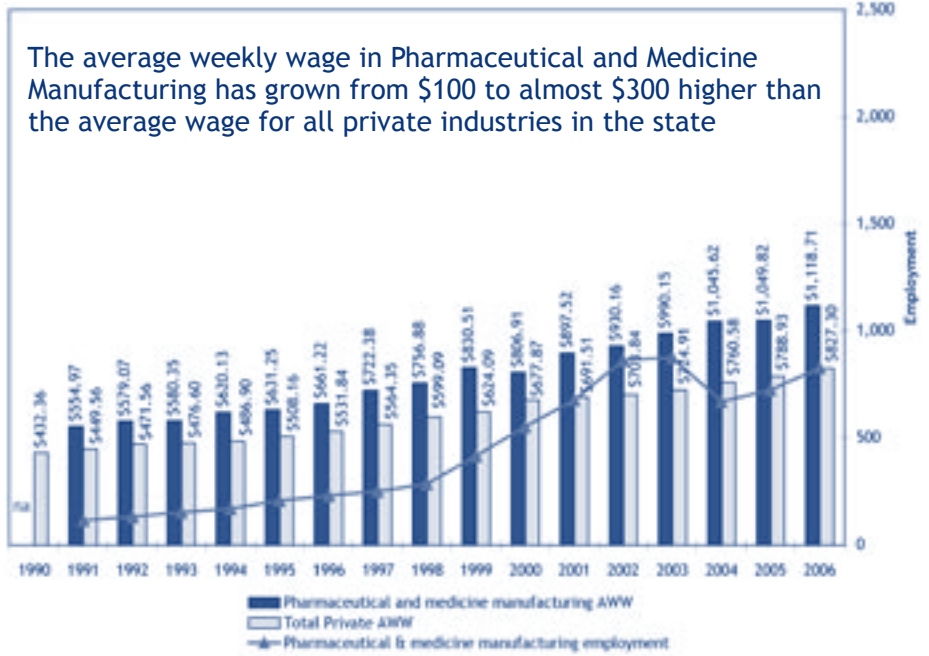
na = Information not available because of confidentiality
Source: U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics Program, May 2005 National Industry-Specific Occupational Employment and Wages Estimates. www.bls.gov/news.release/naics4_54116.htm

Executives, Managers, and Engineers (both computer and science) topped the pay scale among occupations in the *Scientific research and development services* industry. Scientists, with various specialties, had high range median wages. Of the occupations included here, sixteen require a formal education beyond an associate's degree.

Average weekly wages

A common element between these two biotechnological industries in New Hampshire is that they both have high average weekly wages compared to the statewide average of all industries. This may reflect the fact that employees in these industries are highly specialized and have unique, highly trained skill sets. The fast pace of technological changes also demands

Continued on page 8



Unemployment Compensation Claims Activities

Claims Activity

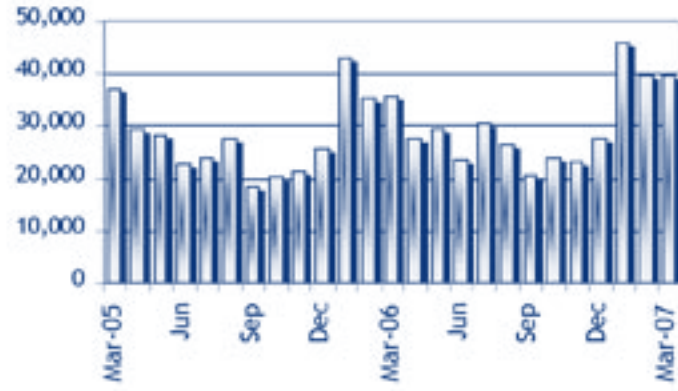
Total Regular Unemployment Compensation Programs:	Change from Previous						
	Month		Year				
	Mar-07	Feb-07	Mar-06	Net	Percent	Net	Percent
Initial Claims	3,865	4,514	3,599	-649	-14.4%	266	7.4%
Continued Weeks	39,653	39,725	35,494	-72	-0.2%	4,159	11.7%

Unemployment Compensation Fund

Trust Fund

Unemployment compensation fund balance at the end of March	\$244,557,461.18
Average payment for a week of total unemployment:	\$260.62
Net benefits paid:	\$8,518,770.61
Net contributions received during the month:	\$223,699.17
Interest Received:	\$3,029,407.50
Reed Act Distribution:	\$0.00
Reed Act Withdrawn for Benefits:	\$0.00

Continued Weeks Claimed



Mar 2005 - Mar 2007
Continued weeks claimed were at close to the same level as the previous month, varying by just more than 70 claims.

			Change from Previous	
Mar-07	Feb-07	Mar-06	Month	Year
205.4	203.5	199.8	0.9%	2.8%

United States
All Urban Areas (CPI-U)
(1982-1984=100)

Consumer Price Index

that these workers constantly stay abreast of the new procedures in their field.

The average weekly wage in the *Pharmaceutical and medicine manufacturing* industry was \$105 higher than the average for all industries in New Hampshire in 1991. That meant the average weekly wage of \$554.97 in the industry was more than 23 percent higher than the state average. That difference grew by 2006. That year New Hampshire's average weekly wage of \$827.30 was almost \$300 shy of the industry's \$1,101.21, a 33 percent difference.

Workers in the *Scientific research and development services* industry fared even better. In 1990 the average weekly wage of \$745.54 exceeded the state average by \$313. From 1994 through 1999,

the difference surpassed the \$500 mark, peaking at \$843 in 2000. The average weekly wage in the industry continued

The average weekly wage in *Scientific Research and Development Services* has typically been significantly above the statewide average for all industries



to grow, reaching \$1,857.24 in 2006, almost double the average weekly wage of all other industries in the state.

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229-4315

Footnotes

¹ U.S. Department of Commerce, A Survey of the Use of Biotechnology in U.S. Industry, Executive Summary for the Report to Congress, October 2003

² New Hampshire Occupational Employment and Wages - June 2006, results of May 2005 survey

New Hampshire Economic Conditions is published monthly in coordination with the Bureau of Labor Statistics and the Employment and Training Administration of the U.S. Department of Labor.

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