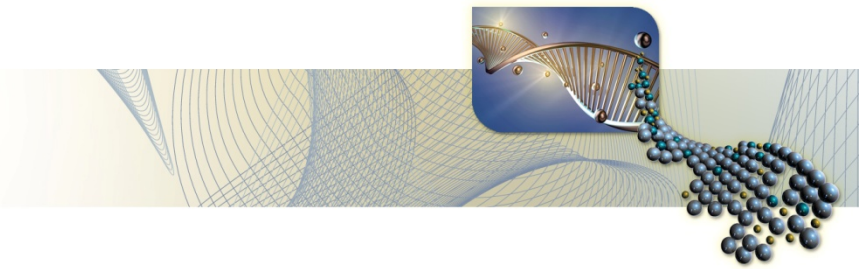


VERMONT



Vermont has developed a specialized employment concentration in medical devices and equipment (location quotient of 1.43). The State's \$97 million in academic bioscience research and development expenditures in 2008 represent a very high share (83 percent) of total academic research. Vermont's academic R&D in the biosciences and its funding from the National Institutes of Health are concentrated with per capita expenditures in each metric well above the national average. The 143 bioscience patents issued to Vermont inventors during the last six years were diversified, led by surgical and medical instruments, drugs and pharmaceuticals and biochemistry.

●●● Bioscience Performance Metrics

Summary of State Performance in Selected Bioscience-related Metrics

Metrics	Vermont	United States	Rank*
Bioscience Industry, 2008			
Total Bioscience Industry Employment, 2008	1,684	1,420,324	V
Bioscience Industry Location Quotient, 2008	0.54	n/a	IV
Biosciences Industry Establishments, 2008	103	47,593	V
Academic R&D Expenditures, FY 2008			
Bioscience R&D (\$ thousands)	\$97,119	\$31,818,810	43
Bioscience Share of Total R&D	82.9%	61.3%	1
Bioscience R&D Per Capita	\$156.38	\$104.54	6
Change in Bioscience R&D, FY 2004–08	-3.5%	22.3%	49
NIH Funding, FY 2009			
Total, Including ARRA Funds (\$ thousands)	\$73,709	\$25,837,590	40
Per Capita Funding	\$118.55	\$84.16	10
Change in Baseline Funding, FY 2004–09**	-14.6%	-4.7%	45
Change in Total Funding, FY 2004–09	6.6%	14.6%	43
Clinical Trials, Initiated 2009	76	5,299	42
Higher Education Degrees in Bioscience Fields, AY 2008	480	161,811	48
Employment in Bioscience-related Occupations, 2008	970	717,510	51
Bioscience Venture Capital Investments, 2004–09 (\$ millions)	\$4.1	\$60,099	49
Bioscience and Related Patents, 2004–09	143	75,593	45

*State ranking figures for bioscience industry employment metrics are calculated as quintiles (I=Top Quintile; V=Bottom Quintile). All other metrics are ranked 1-52.

**Baseline Funding does not include American Recovery and Reinvestment Act (ARRA) funds for 2009.

For source notes, see end of State Profile.

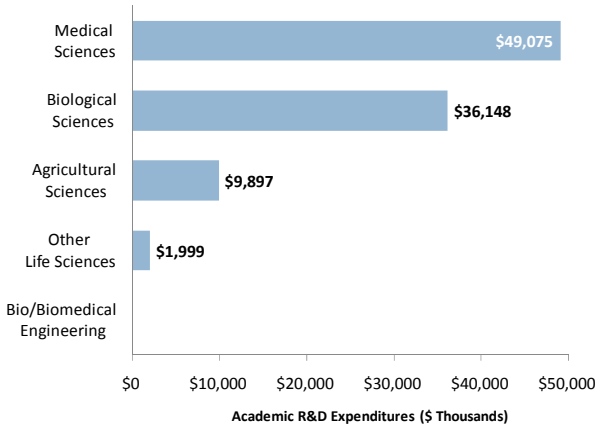
●●● Bioscience Industry Base, 2008

INDUSTRY SUBSECTOR	Vermont		United States	
	2008	2001-08 Change	2008	2001-08 Change
AGRICULTURAL FEEDSTOCK & CHEMICALS				
Establishments	5	66.7%	2,440	16.0%
Employment	29	42.5%	114,793	1.9%
Location Quotient	0.11		n/a	
Direct-Effect Employment Multiplier	1.92		11.33	
Total Employment Impact	55		1,284,650	
Average Annual Wage	\$28,281		\$72,279	
DRUGS & PHARMACEUTICALS				
Establishments	4	0.0%	2,771	6.4%
Employment	43	48.3%	311,882	2.3%
Location Quotient	0.06		n/a	
Direct-Effect Employment Multiplier	3.06		9.92	
Total Employment Impact	131		2,873,278	
Average Annual Wage	\$57,051		\$93,378	
MEDICAL DEVICES & EQUIPMENT				
Establishments	39	24.1%	15,227	0.4%
Employment	1,365	225.2%	435,509	2.0%
Location Quotient	1.43		n/a	
Direct-Effect Employment Multiplier	2.56		4.87	
Total Employment Impact	3,492		2,029,581	
Average Annual Wage	\$49,472		\$63,606	
RESEARCH, TESTING, & MEDICAL LABORATORIES				
Establishments	55	102.1%	27,154	57.7%
Employment	248	76.7%	558,140	46.1%
Location Quotient	0.20		n/a	
Direct-Effect Employment Multiplier	1.89		3.30	
Total Employment Impact	469		1,853,127	
Average Annual Wage	\$59,444		\$80,785	
TOTAL BIOSCIENCES INDUSTRY				
Establishments	103	56.9%	47,593	28.3%
Employment	1,684	176.5%	1,420,324	15.8%
Location Quotient	0.54		n/a	
Direct-Effect Employment Multiplier	2.46		5.82	
Total Employment Impact	4,147		8,040,636	
Average Annual Wage	\$50,775		\$77,595	
TOTAL PRIVATE SECTOR				
Establishments	23,406	3.9%	8,860,956	13.8%
Employment	250,201	0.2%	113,917,377	3.5%
Average Annual Wage	\$37,567		\$45,229	

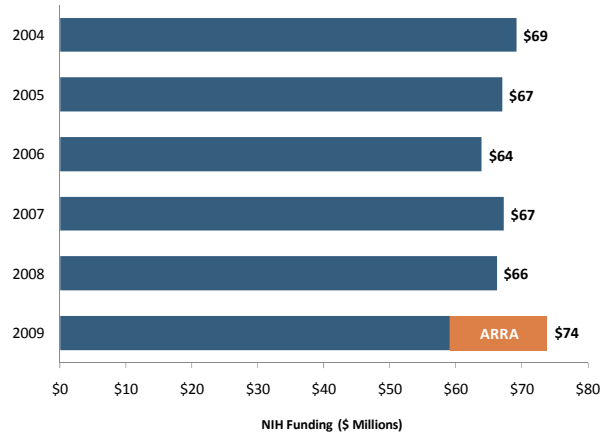
Note: U.S. employment metrics include Puerto Rico. Estimates of total employment impacts do not include Puerto Rico.

●●● Bioscience Performance Metrics

Bioscience Academic R&D Expenditures in Vermont, FY 2008

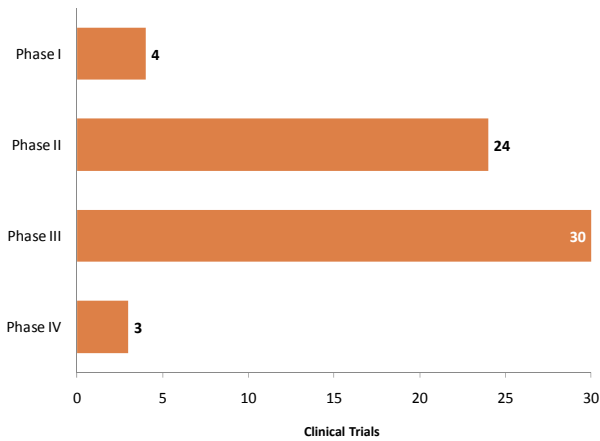


NIH Awards in Vermont, 2004–2009

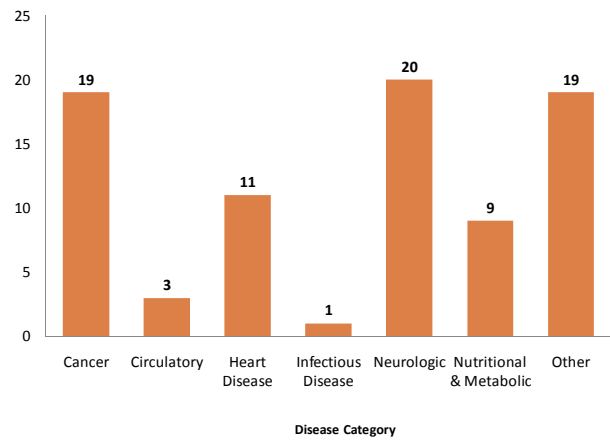


●●● Recent Clinical Trial Activities

Clinical Trials by Phase in Vermont, 2009

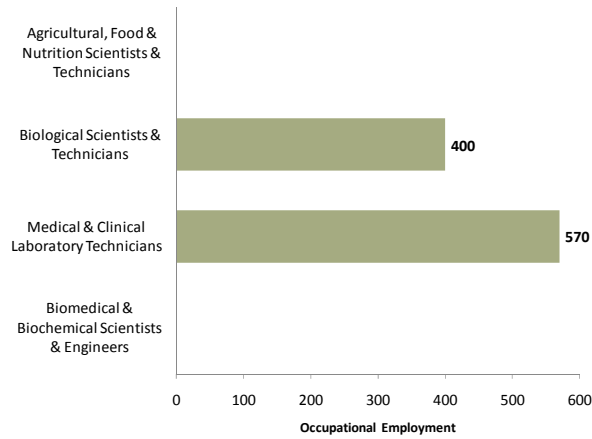


Clinical Trials by Major Disease Category in Vermont, 2009

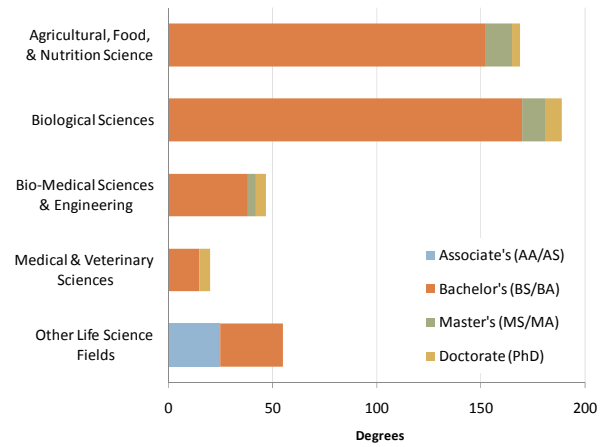


Bioscience Talent Base

Bioscience-related Occupational Employment in Vermont, 2008

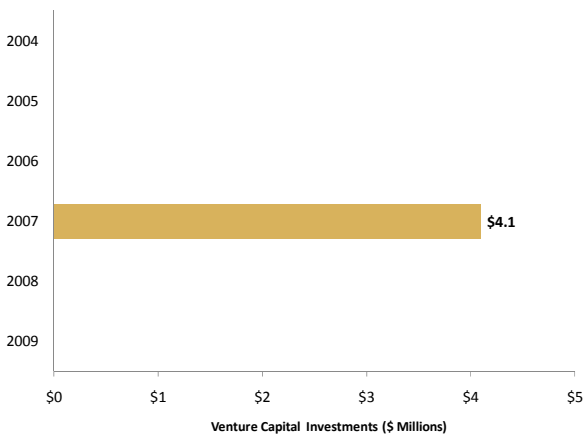


Bioscience-related Degrees in Vermont, AY 2008

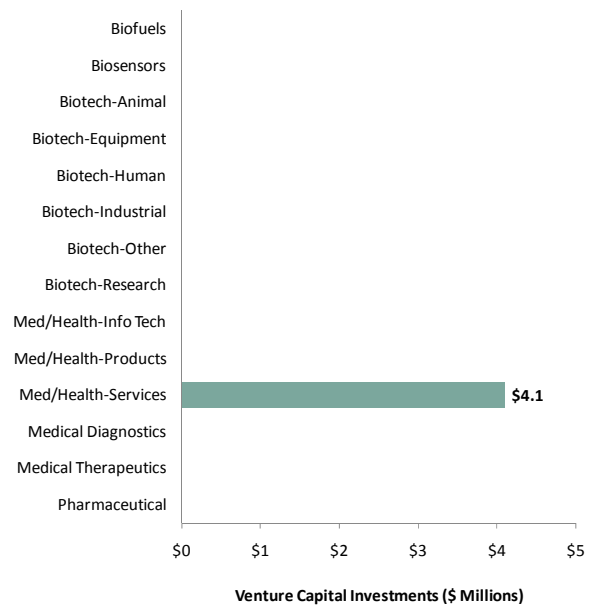


Bioscience Venture Capital

Bioscience-related Venture Capital Investments in Vermont, 2004–2009

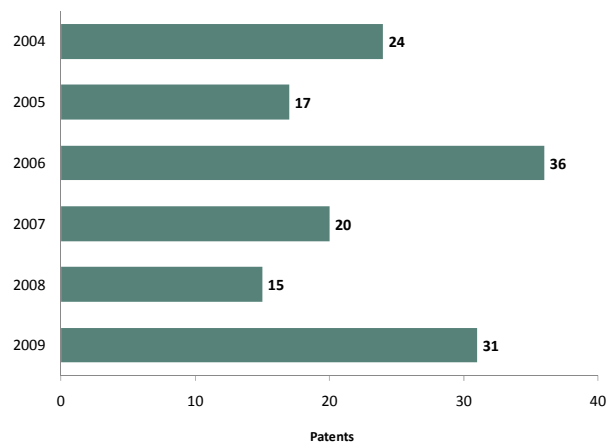


Bioscience-related Venture Capital Investments in Vermont by Segment, 2004–2009

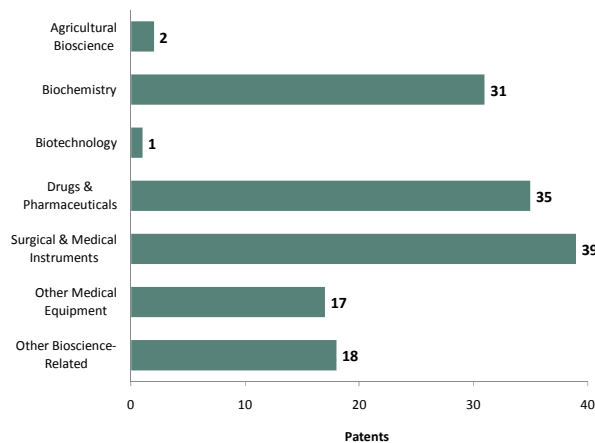


●●● Bioscience Patents

Bioscience-related Patents in Vermont, 2004–2009



Bioscience-related Patents by Classification Group in Vermont, 2004–2009



State Bioscience Contact

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 Hardwick, VT 05843
 P: (802) 274-4276
www.vtbiosciences.org

Source Notes:

Employment, Establishment, and Wage Data: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW) industry data provided by the Minnesota IMPLAN Group, 2001 and 2008.

Employment Multipliers: U.S. Bureau of Economic Analysis RIMS II Employment Multipliers, 2006 (most currently available).

Academic R&D Expenditures: National Science Foundation (NSF) Survey of Research and Development Expenditures at Universities and Colleges, 2004 and 2008.

NIH Funding: National Institutes of Health, Office of Extramural Research, Award Trends, Dollars Awarded by State, 2004 and 2009.

Clinical Trials: National Institutes of Health, Clinicaltrials.gov, trials that were initiated in 2009.

Higher Education Degrees: National Center for Educational Statistics, Integrated Postsecondary Education Data System (IPEDS), 2008.

Occupational Employment: U.S. Bureau of Labor Statistics, Occupational Employment Statistics (OES) survey data, 2008.

Venture Capital: Thomson Reuters' VentureXpert Database, 2004–2009, as of January 15, 2010.

Patents: U.S. Patent & Trademark Office data as available from the Thomson Reuters' Delphion Patent Analysis Database, 2004–2009, as of January 15, 2010.

For a more detailed discussion of the data and methodology used, please see the Appendix to the full national report. ©2010