



MassBio
MASSACHUSETTS BIOTECHNOLOGY COUNCIL

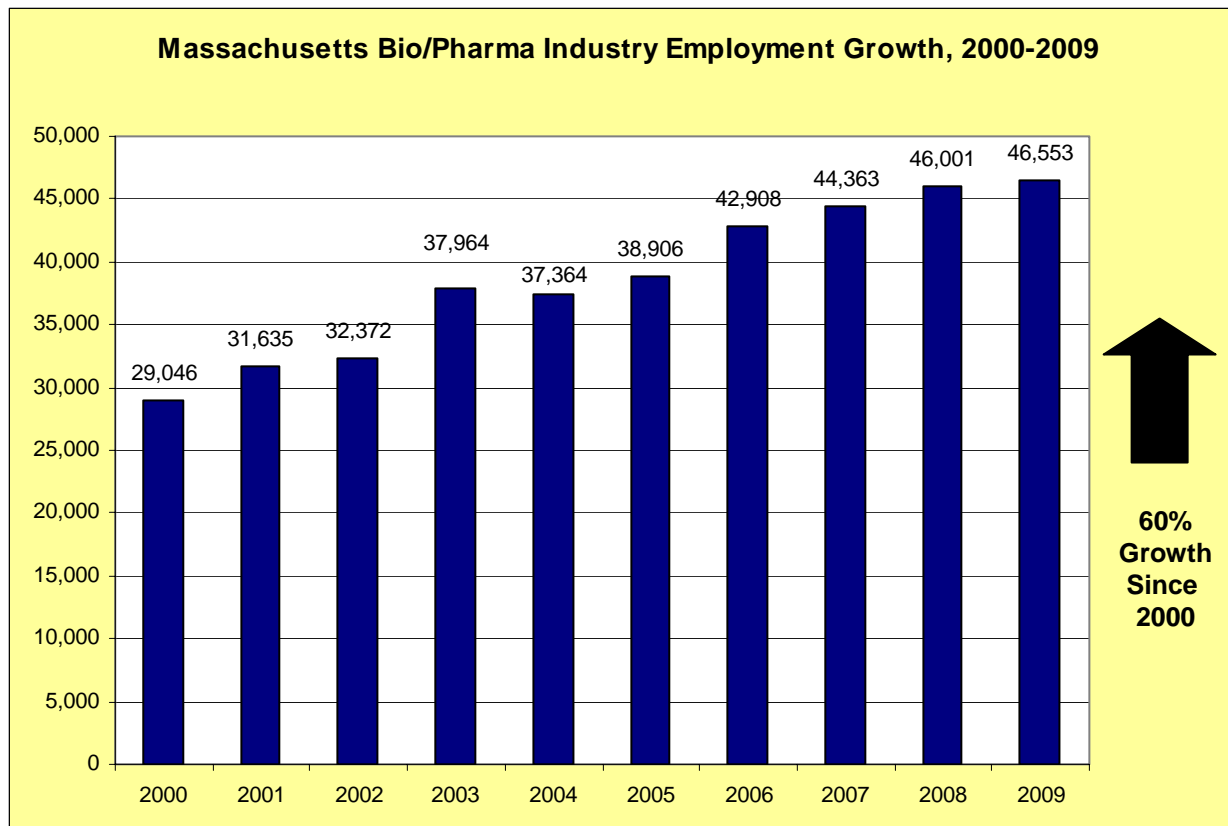
Biotechnology Industry Snapshot

2010



Massachusetts Biopharma Industry Growth

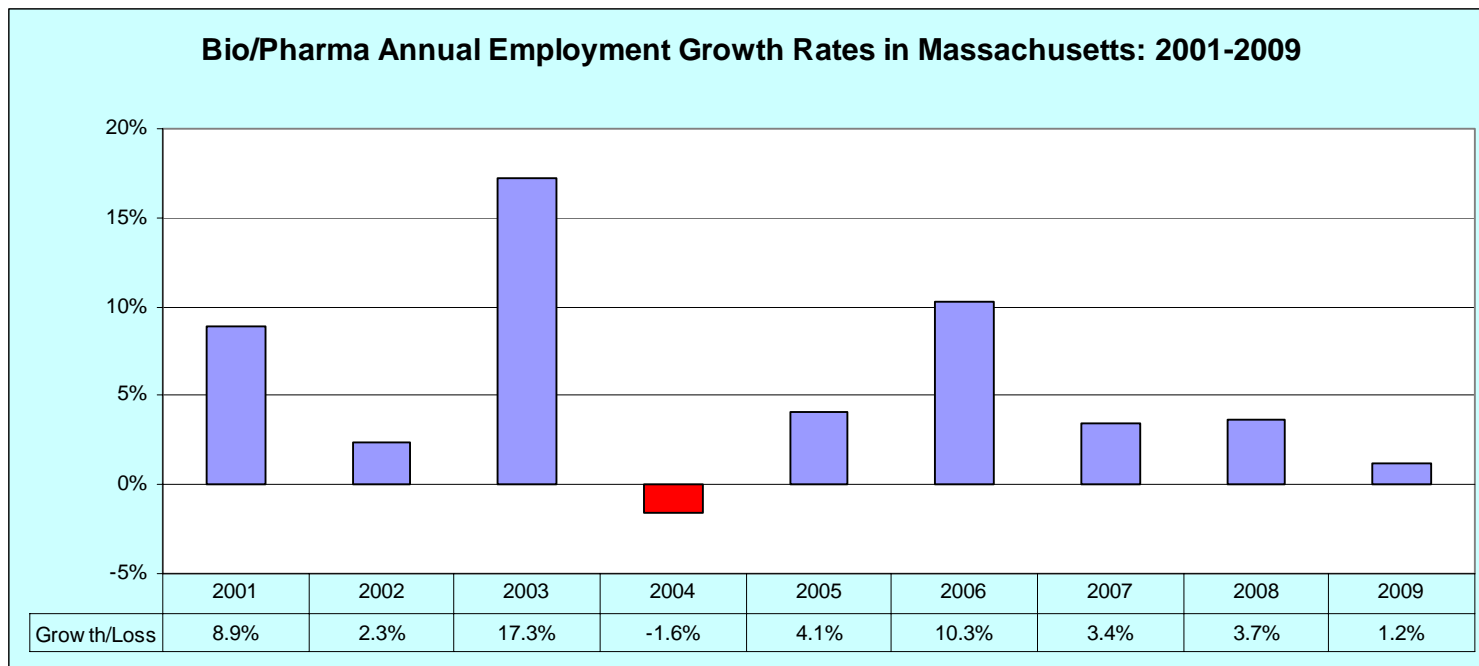
Massachusetts biotechnology and pharmaceutical industry employment reached an all-time high in 2009.





Massachusetts Biopharma Annual Job Growth Rates

In the past decade, 2003 marked the year of greatest growth in the industry. It was followed by the only year in which the industry constricted.

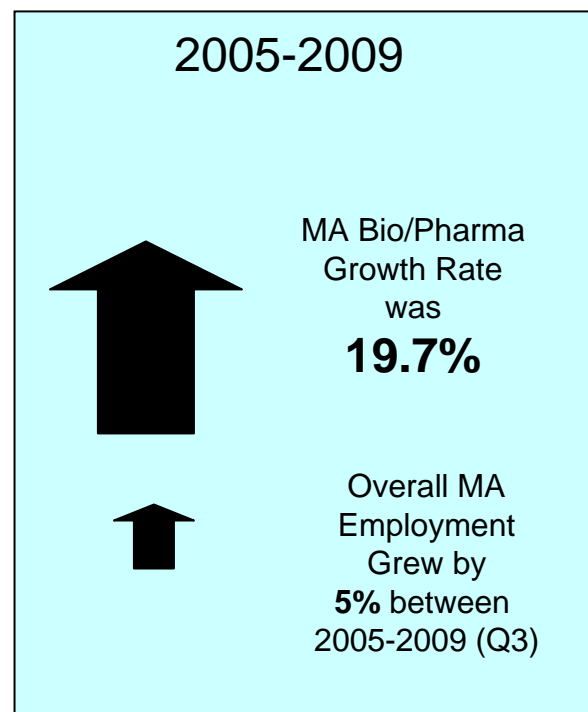
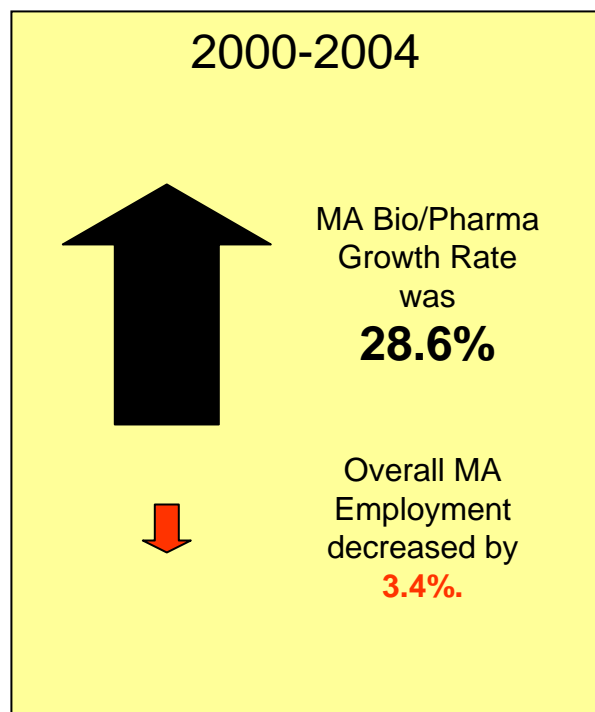




Industry leads growth in Massachusetts

The job growth in the Massachusetts biopharma industry has grown significantly over the past decade, though growth slowed in the second half of the decade.

The industry has far outpaced the Massachusetts economy as a whole in terms of job growth.





Good jobs for Massachusetts residents

The biotech industry continues to provide good jobs to Massachusetts residents.

Biopharma Industry Impact in MA:

\$4,185,907,507 in payroll (2008)

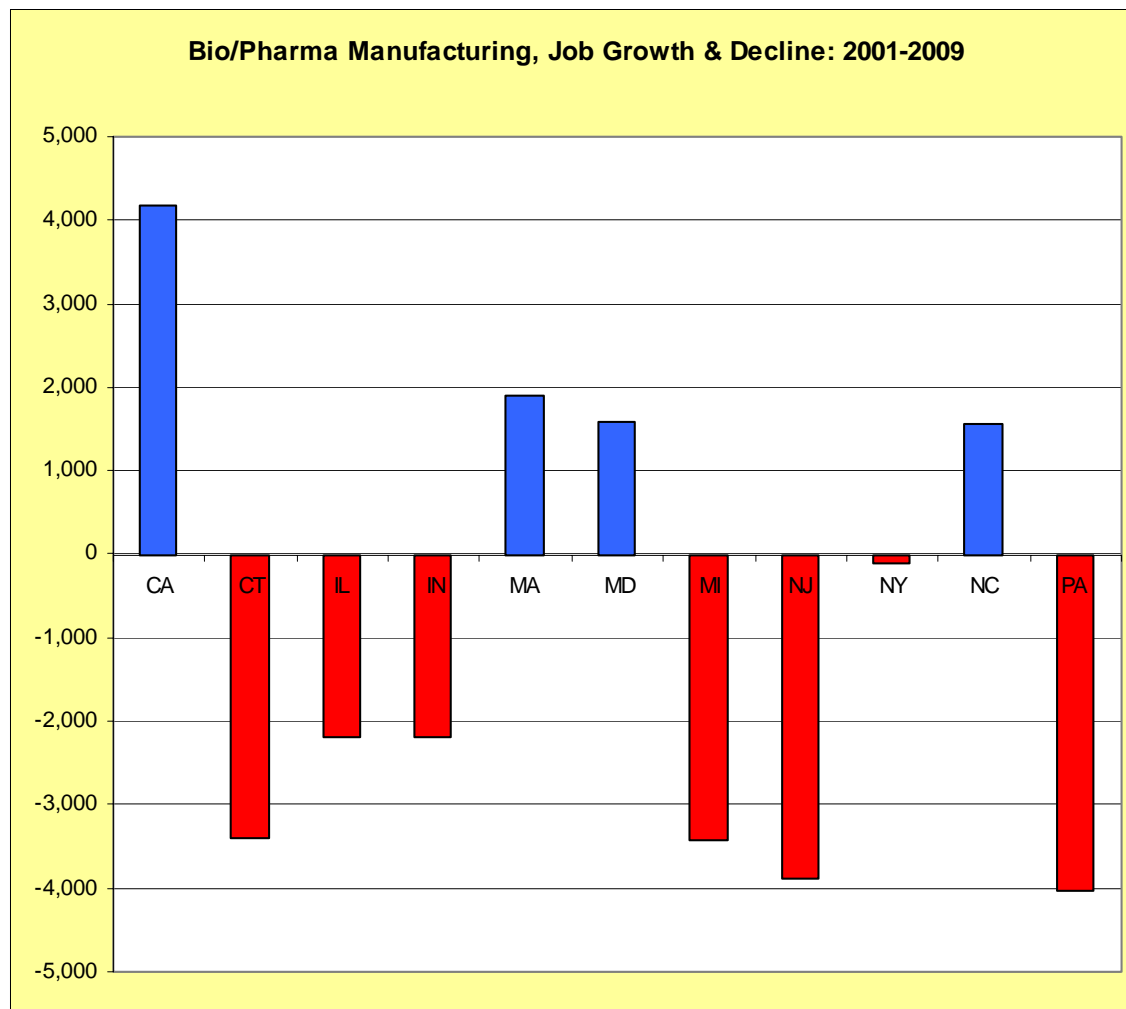
\$90,996 in average salary (2008)

Sources: U.S. Bureau of Labor Statistics, County Business Patterns; Commonwealth of Massachusetts, Department of Labor & Workforce Development, Economic Data Programs, Employment and Wages (ES-202 report) and MassBio analysis



Biopharmaceutical Manufacturing: Massachusetts Growth

Of the top 11 biopharma manufacturing states, Massachusetts was one of just four states which added manufacturing jobs in the decade. California continues to enjoy the greatest employment in biopharma manufacturing, followed by traditional pharmaceutical manufacturing powerhouses New Jersey and Pennsylvania.



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW)



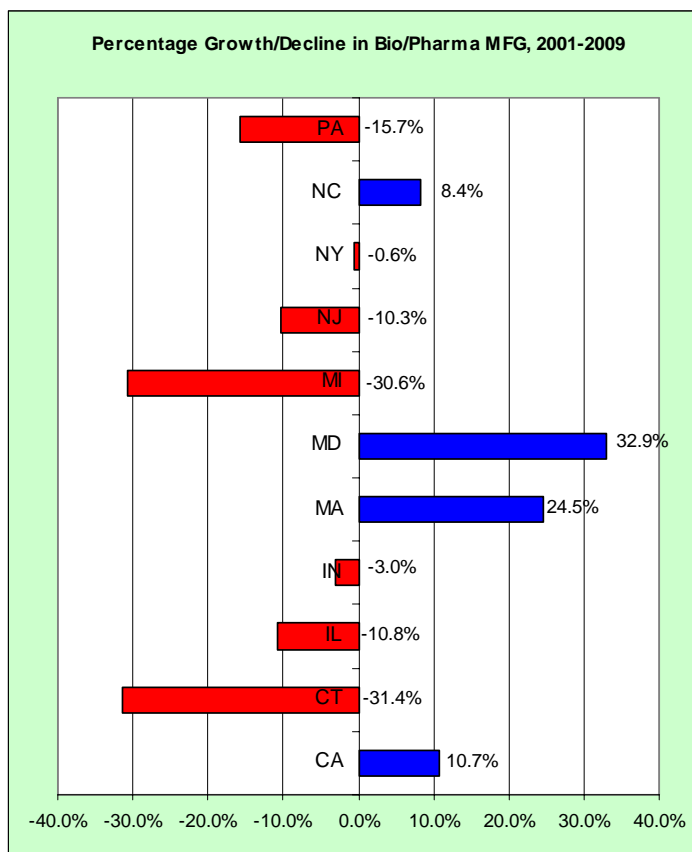
Biopharmaceutical Manufacturing: Massachusetts Growth

	2001	2009	(+/-)
CA	39,199	43,383	4,184
CT	10,807	7,410	-3,397
IL	20,275	18,077	-2,198
IN	18,536	17,989	-547
MA	7,794	9,706	1,912
MD	4,801	6,379	1,578
MI	11,213	7,785	-3,428
NJ	37,872	33,974	-3,898
NY	20,640	20,524	-116
NC	18,782	20,355	1,573
PA	25,780	21,743	-4,037



Biopharmaceutical Manufacturing: Massachusetts Growth

Among the 11 leading biopharma manufacturing states Massachusetts had the second greatest *percentage* growth, 24.5% between 2001 and 2009.





Biopharma Manufacturing - Industry Concentration

Massachusetts led, among the 11 largest biopharma manufacturing states, in growth of biopharma manufacturing industry concentration between 2001-2009.

	2001	2009	(+/-)
CA	1.21	1.34	0.13
CT	2.94	2.04	-0.9
IL	1.56	1.44	-0.12
IN	2.9	2.95	0.05
MA	1.06	1.34	0.28
MD	0.94	1.21	0.27
MI	1.14	0.92	-0.22
NJ	4.46	4.05	-0.41
NY	1.15	1.12	-0.03
NC	2.29	2.45	0.16
PA	2.07	1.73	-0.34

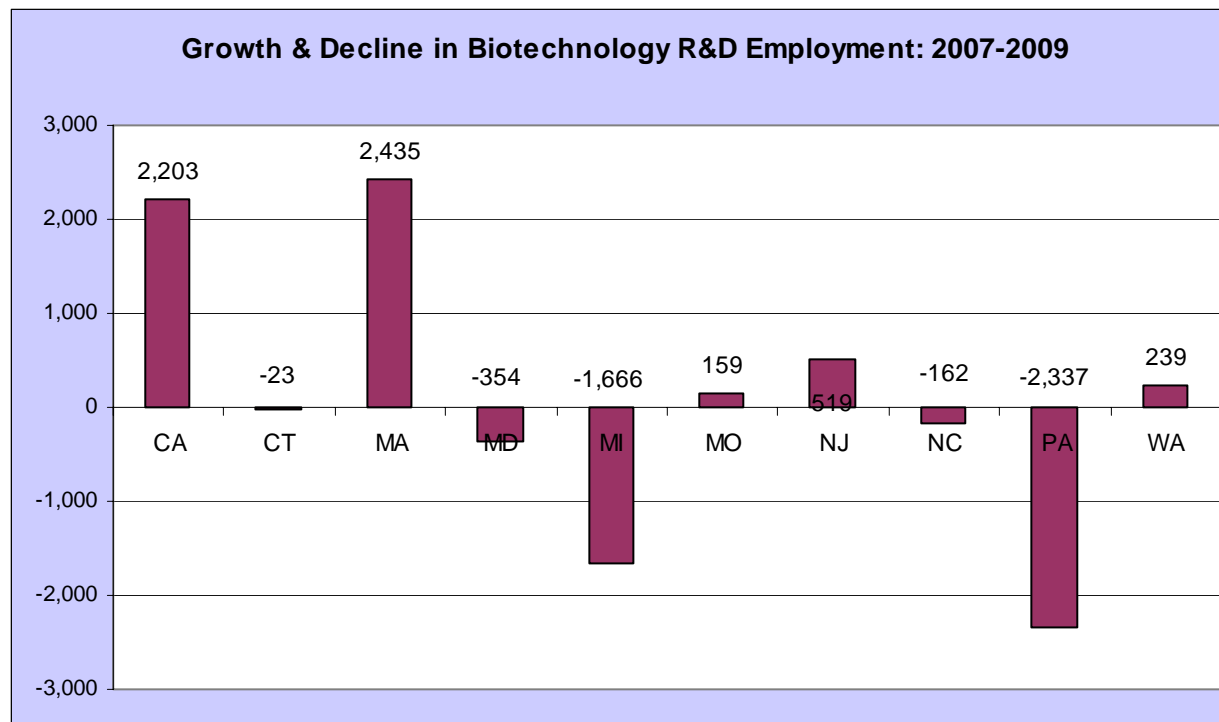
What is a Location Quotient?

Location Quotients measure the concentration and strength of an industry in a region versus the nation as a whole. Location Quotients of 1.0 or more mean that the industry enjoys a greater concentration in a region versus the nation as a whole.



Growth in Biotech R&D Employment

Considering employment in “Biotechnology Research and Development”, using North American Industry Code (NAICS) 541711, Massachusetts holds a dominant position nationally. Between 2007 and 2009, Massachusetts grew at a greater rate than competitor states.





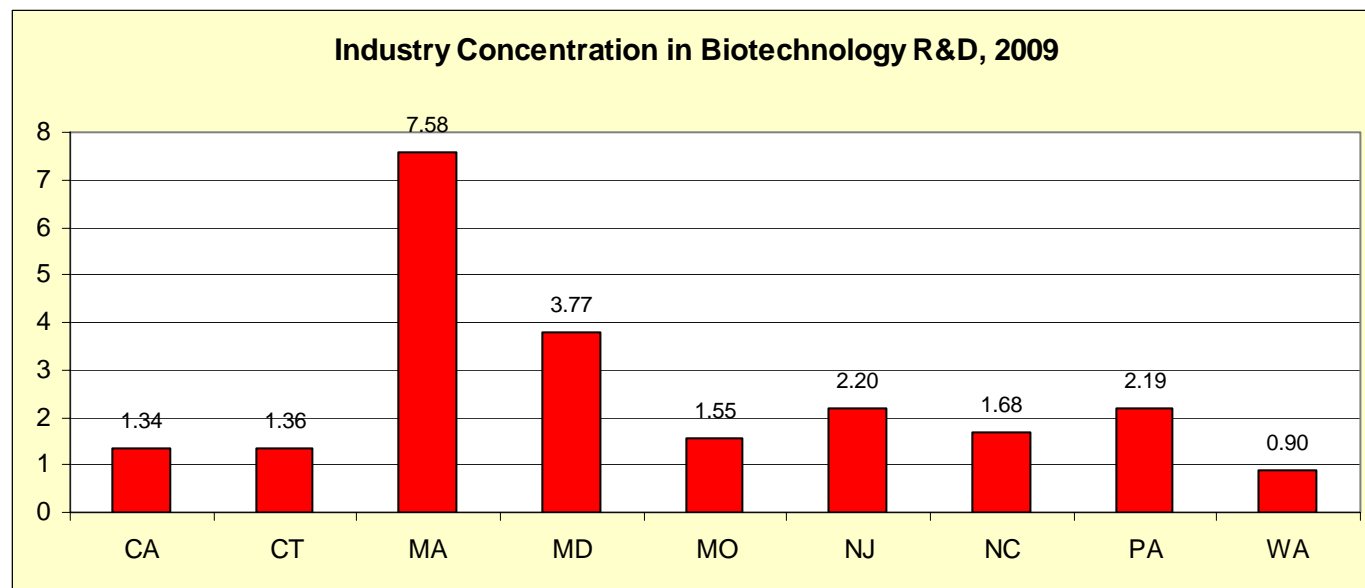
Growth in Biotech R&D Employment

	2007	2009	(+/-)
CA	19,134	21,337	2,203
CT	2,452	2,429	-23
MA	24,565	27,000	2,435
MD	10,154	9,800	-354
MI	4,670	3,004	-1,666
MO	4,262	4,421	159
NJ	8,567	9,086	519
NC	7,042	6,880	-162
PA	15,902	13,565	-2,337
WA	2,499	2,738	239



Growth in Biotech R&D Employment

Massachusetts holds a dominant position in terms of *industry concentration* in “Biotechnology Research and Development”.





Massachusetts R&D in the Physical Sciences

Massachusetts R&D employment in the Physical Sciences grew by over 100% in the past decade

	2001	2009	(+/-)	% (+/-)
CA	85,321	105,678	20,357	23.9%
CO	8,923	12,927	4,004	44.9%
IL	37,107	23,339	-13,768	-37.1%
MA	20,275	40,971	20,696	102.1%
MD	21,692	26,537	4,845	22.3%
MI	14,469	17,558	3,089	21.3%
NJ	31,455	29,766	-1,689	-5.4%
NY	33,197	35,482	2,285	6.9%
NC	9,060	17,399	8,339	92.0%
PA	18,935	28,757	9,822	51.9%
WA	13,709	18,204	4,495	32.8%

The previous pages focused on NAICS 541711.

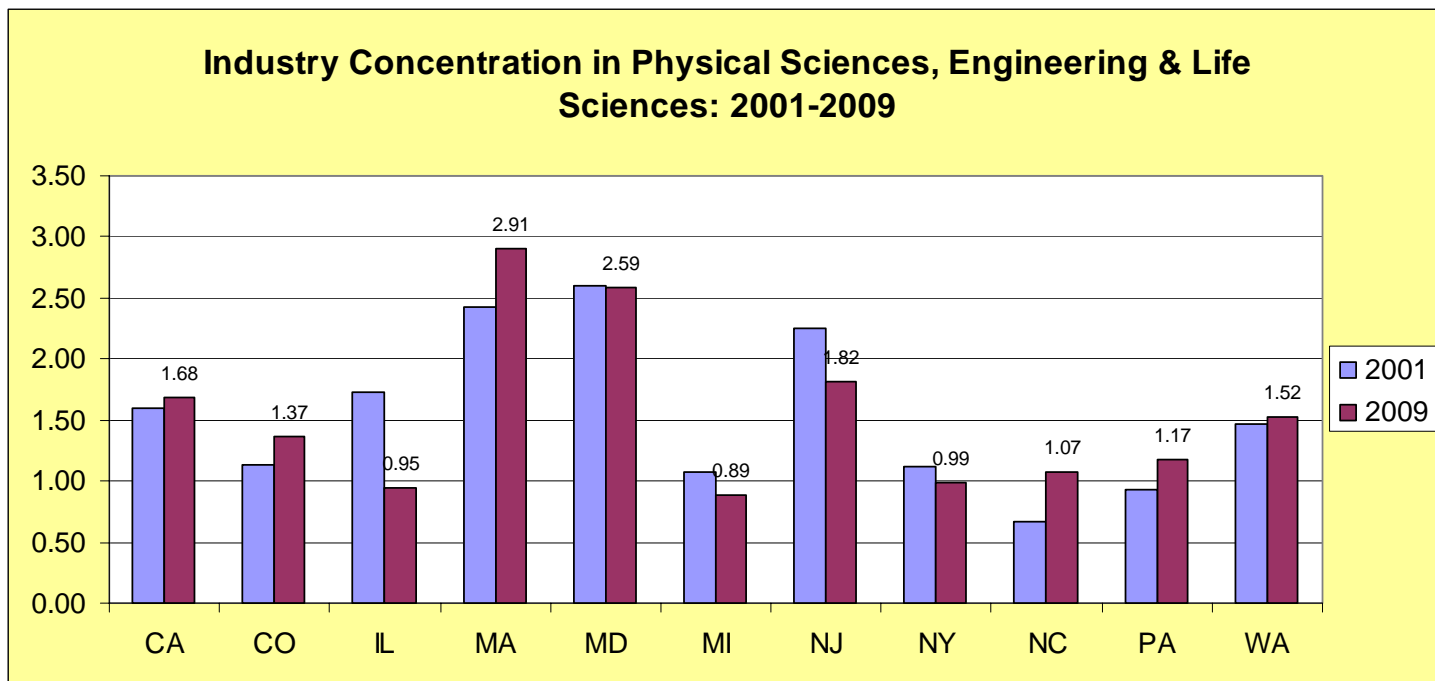
The broader industry classification, NAICS 54171 is “Research and development in the physical, engineering, and life sciences”. This broader classification includes biotechnology R&D, as well as other physical sciences, including chemistry, physics, computers, electronics, aerospace, etc.

In this broader category, Massachusetts again outpaced all other states, though California still is the largest employer by far and North Carolina, Pennsylvania, and Colorado all enjoyed significant growth.



Massachusetts R&D in the Physical Sciences

Growing employment in R&D in the physical sciences continues to bolster our industry location quotient and concentration figures also.



Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW)



Top NIH Funded Hospitals in U.S., 2009

Massachusetts had 5 of the top 8 NIH-funded hospitals in the U.S., and 7 of the top 16.

1) Massachusetts General Hospital	\$377 M
2) Vanderbilt University Hospital, Childrens Rehab Unit, TN	\$345 M
3) Brigham & Women's Hospital, MA	\$326 M
4) Mayo Clinic, MN	\$197 M
5) New York University Medical Center, NY	\$157 M
6) Dana-Farber Cancer Institute, MA	\$155 M
7) Beth Israel Hospital, MA	\$151 M
8) Children's Hospital, MA	\$118 M
15) New England Medical Center Hospital, MA	\$39 M
16) Boston Medical Center, MA	\$38 M



NIH Funding Overall and Per Capita

Based on preliminary figures for 2010, Massachusetts organizations received 12% of all NIH funding for basic research, for a per capita rate far exceeding other leading NIH-recipient states.

	Per Capita
California	\$73.31
Massachusetts	\$345.78
New York	\$85.49
Pennsylvania	\$93.52
Texas	\$36.71
Maryland	\$148.81
North Carolina	\$76.84
Washington	\$105.94
Illinois	\$46.79
Ohio	\$49.12

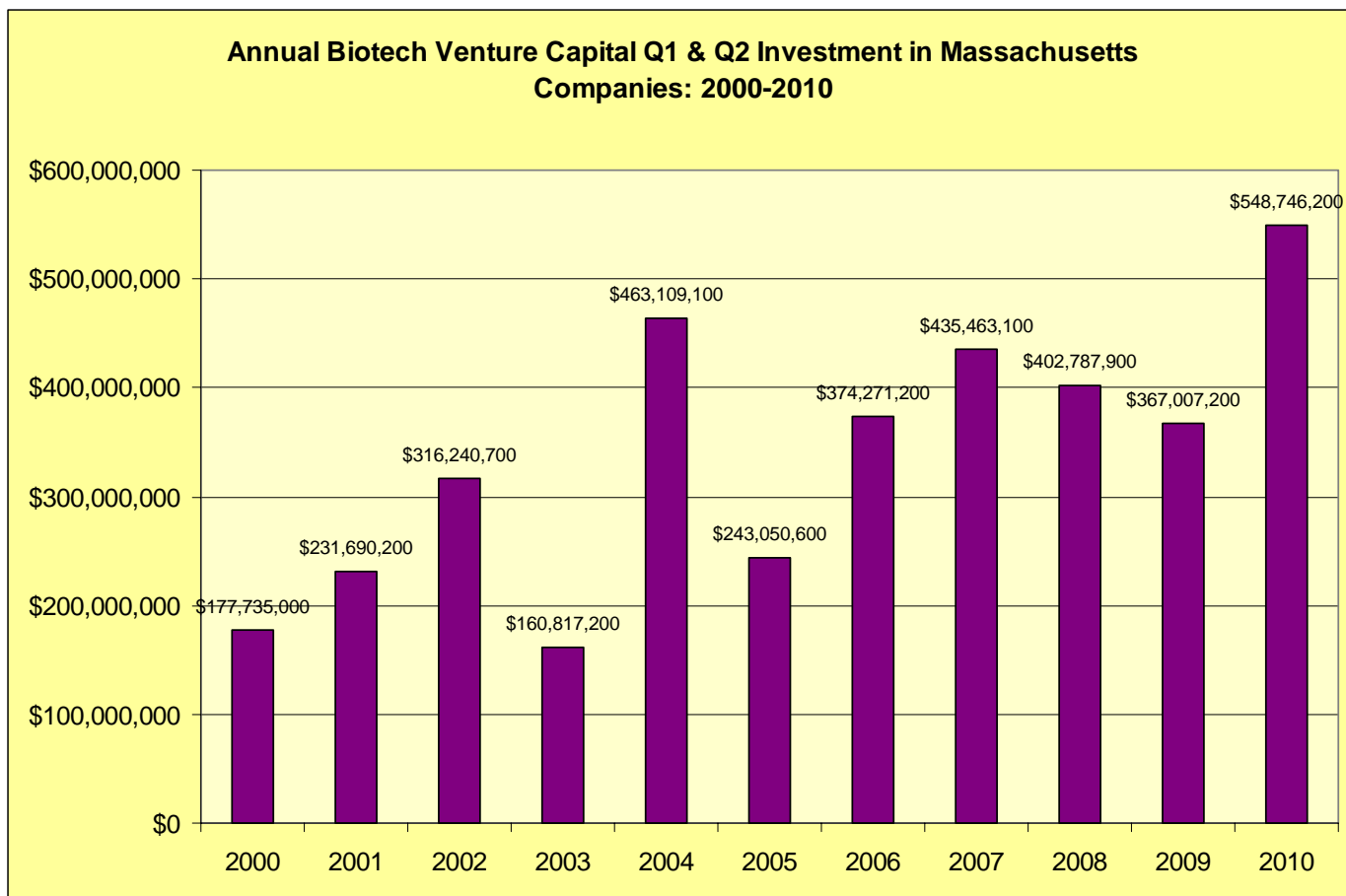
Massachusetts has historically trailed only California as a recipient of federal National Institutes of Health research funding. However, excluding significant federal ARRA stimulus spending in 2009, National Institutes of Health funding has declined nationally in recent years. Based on *preliminary** figures from NIH, that decline has continued in 2010.

	2005	2010*	Decline
California	\$3,301,200,231	\$2,694,803,931	\$606,396,300
Massachusetts	\$2,272,801,123	\$2,246,891,609	\$25,909,514
New York	\$2,020,901,112	\$1,666,280,599	\$354,620,513
Pennsylvania	\$1,452,201,233	\$1,164,167,825	\$288,033,408
Texas	\$1,149,910,000	\$892,948,254	\$256,961,746
Maryland	\$1,764,302,101	\$838,317,921	\$925,984,180
North Carolina	\$1,078,420,050	\$708,640,567	\$369,779,483
Washington	\$812,702,910	\$693,825,070	\$118,877,840
Illinois	\$733,810,097	\$603,662,179	\$130,147,918
Ohio	\$716,912,201	\$564,219,174	\$152,693,027



Venture Capital in Massachusetts Biotech: Growth in 2010

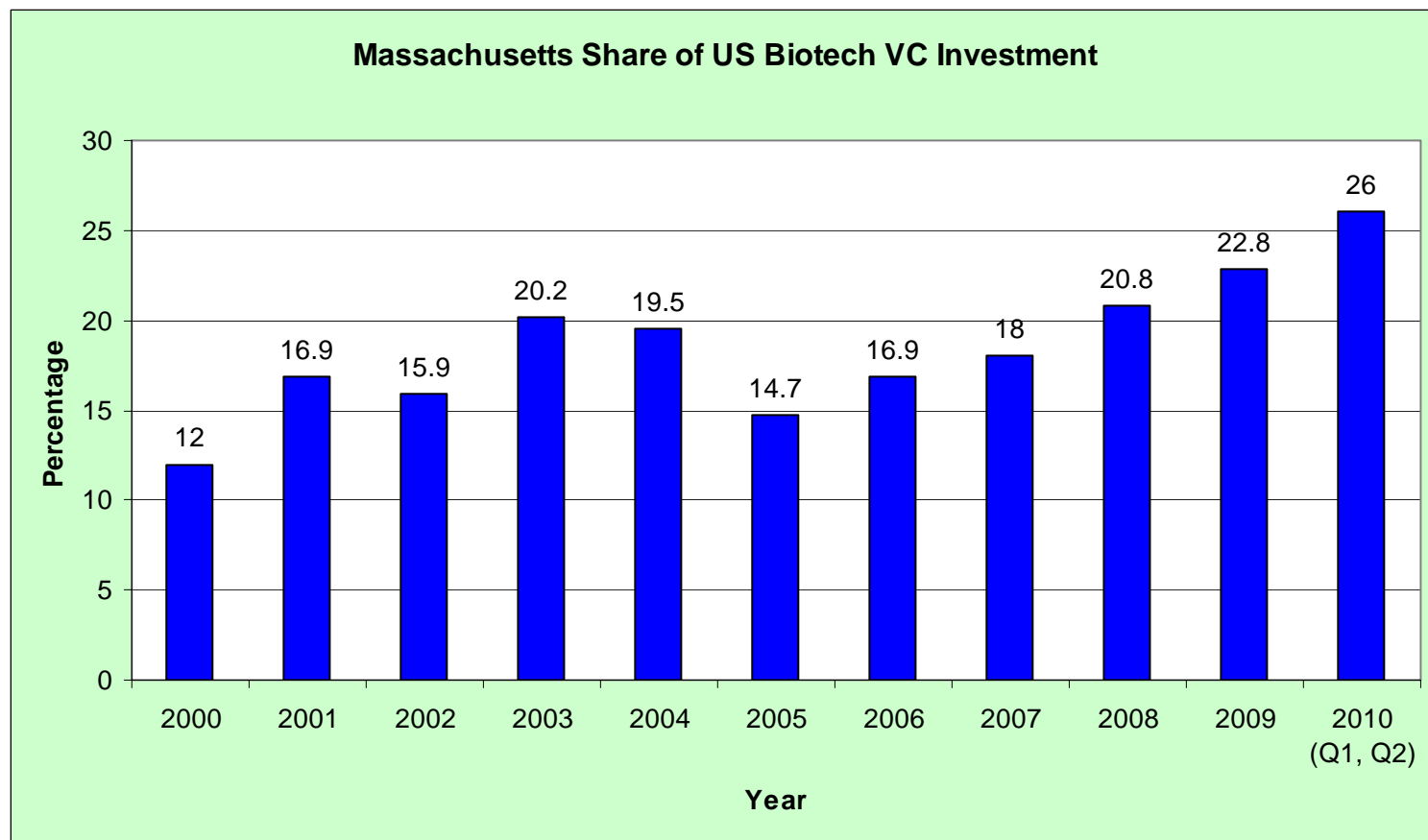
VC investments in Massachusetts biotech companies attained an historic high in the first two quarters of 2010, when compared against performance in past years.





Venture Capital in Massachusetts Biotech: Growth in 2010

Massachusetts received 26% of all U.S. Biotech VC Investment in Q1-Q2 of 2010

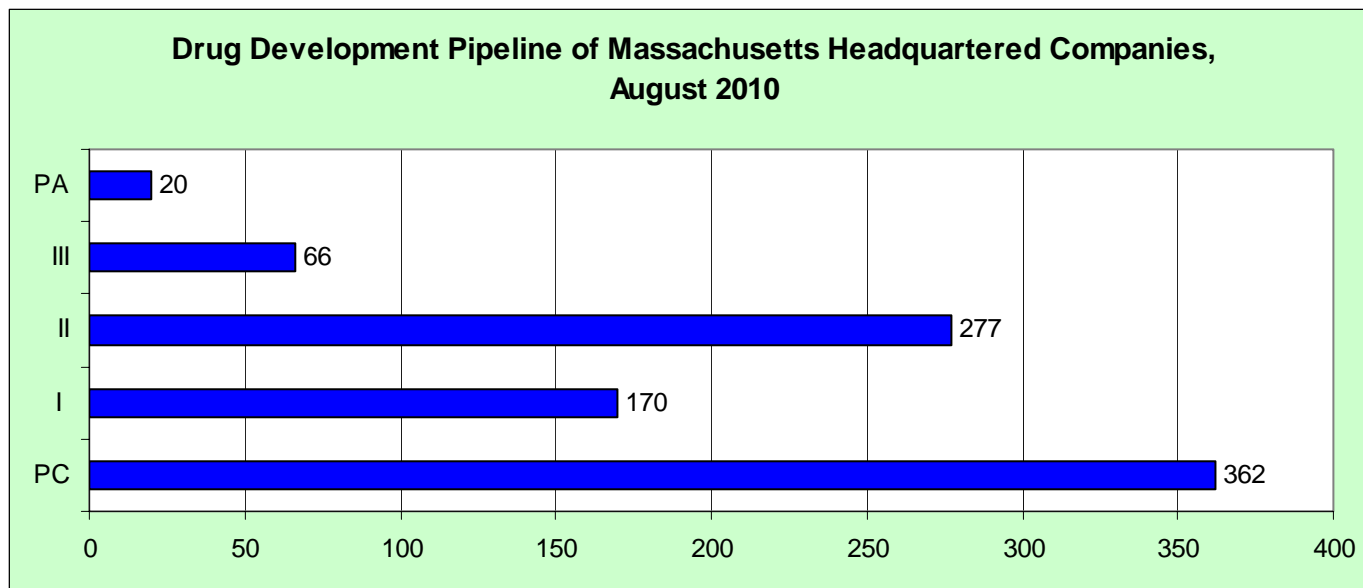




The Massachusetts Drug Development Pipeline

Massachusetts headquartered companies have commercialized 141 drug products that treat 90 different medical conditions and diseases. The patient population for these products - in the U.S. alone - is:

160,000,000+
people



895 drugs are in development, from preclinical to pending approval, in Massachusetts. This does not include drugs being developed in Massachusetts by companies with headquarters outside of the state. **217** of the candidates in the pipeline are biologics.

Massachusetts-based companies account for 11% of the U.S. and 5.5% of the global drug development pipeline.