



Massachusetts Ecosystem

KAPAL

December 1, 2020

A True Partnership



Kendall Square: Then vs Now



Industry Growth





Largest Biopharma Industry Employers in Massachusetts

Takeda is the largest biopharma employer in Massachusetts.

Rank	Company	Employees
1	Takeda	4,927
2	Sanofi	4,200
3	Biogen	2,446
4	Novartis	2,400
5	Pfizer	2,100
6	Vertex	1,957
7	Charles River Laboratories	1,715
8	MilliporeSigma	1,700
9	Parexel International	1,220
10	Foundation Medicine	1,139
11	AbbVie	1,090
12	EMD Serono	1,047

Rank	Company	Employees
13	Bristol Myers Squibb	1,035
14	Alnylam	1,000
15	Moderna	850
16	Alkermes	820
17	Merck	706
18	bluebird bio	700
19	Sarepta	607
20	Amgen	600
20	AstraZeneca	600
22	Sunovion Pharmaceuticals	590
23	Tesaro, A GSK Company	560
24	Agios	536



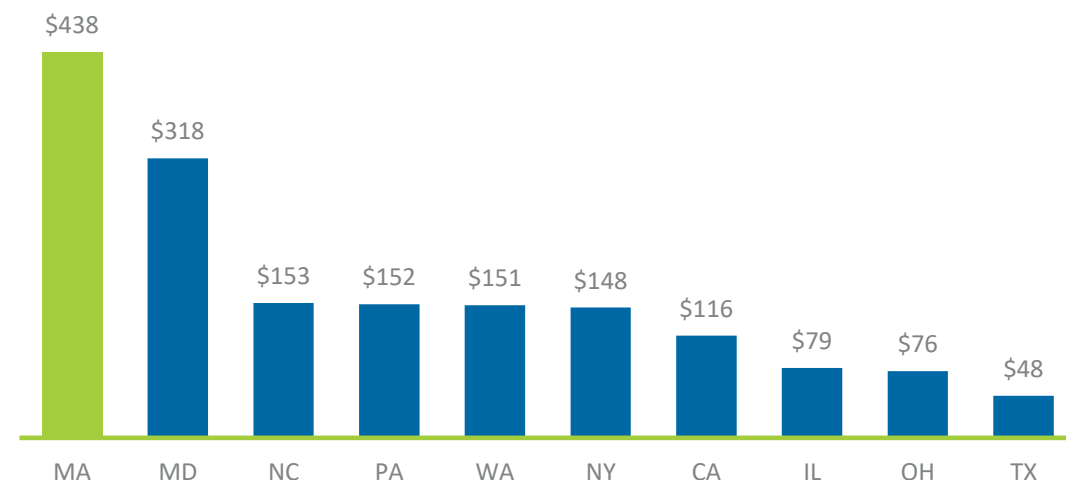
Top NIH-Funded States: by Total Funding & Per Capita, 2019

Just under 10% of all NIH funding went to Massachusetts organizations in 2019.

Total NIH Funding

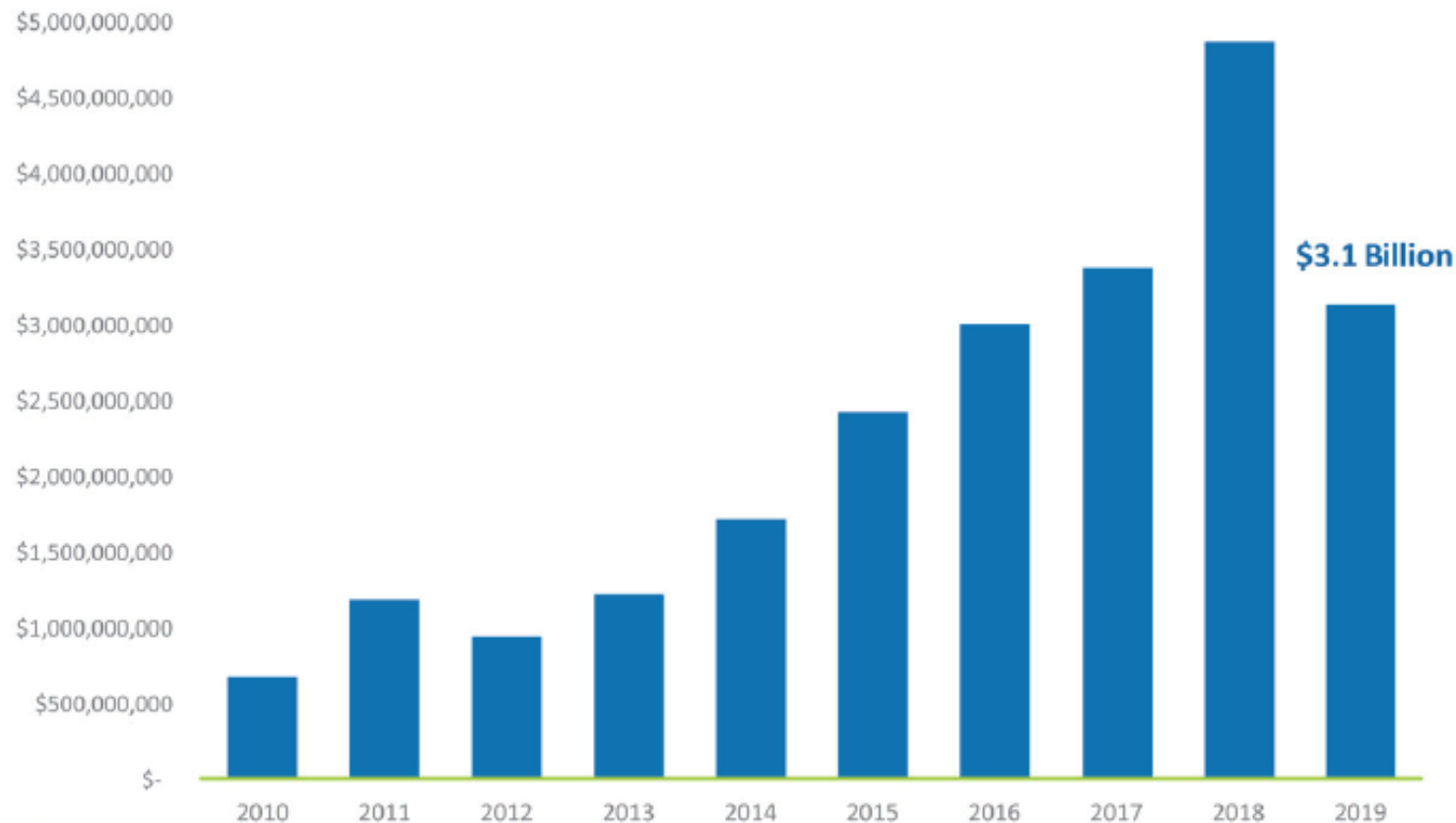
State	Funding	Number of Awards
California	\$4,591,581,664	8,558
Massachusetts	\$3,024,098,902	5,548
New York	\$2,891,776,354	5,681
Pennsylvania	\$1,944,017,304	3,848
Maryland	\$1,920,138,523	2,621
North Carolina	\$1,589,742,045	2,557
Texas	\$1,370,180,699	3,056
Washington	\$1,135,332,133	1,747
Illinois	\$1,012,456,813	2,200
Ohio	\$883,089,814	1,899
US	\$30,885,907,765	59,528

Funding Per Capita





Venture Capital Investment



Venture capital investment in Massachusetts biopharma companies was **\$3.1 billion** in 2019.

In the first two quarters of 2020, Massachusetts biopharma companies raised **\$2.1 billion**.



Massachusetts IPOs 2019

There were **10 IPOs** from Massachusetts biopharma companies in 2019.

23% of all US-based biotech IPOs in 2019 were from Massachusetts companies.



\$142 MM



\$78 MM



\$105 MM



\$75 MM



\$103 MM



\$75 MM



\$102 MM



\$72 MM



\$84 MM



\$71 MM



Massachusetts IPOs 2020 (Q1&2)

There have been **7 IPOs** from Massachusetts biotech companies in the first half of 2020, raising an average of \$187 million.

33% of all US-based biotech IPOs in the first half of 2020 were from Massachusetts companies.

 **forma**
THERAPEUTICS. \$278 MM

 BLACK
DIAMOND
THERAPEUTICS \$231 MM

 **AKOUOS** \$212 MM

 **Beam**
THERAPEUTICS \$207 MM

 **generation bio**[™] \$200 MM

 **KEROS**
THERAPEUTICS \$100 MM

 **imara** \$75 MM

Massachusetts IPOs 2020 (Q3&4)

There have been **13 IPOs** from Massachusetts biotech companies in the second half of 2020 (through October), raising an average of \$182 million.



\$75 MM



\$83 MM



\$200 MM



\$219 MM



\$460 MM



\$268 MM



\$120 MM



\$135 MM



\$87 MM



\$71 MM



\$129 MM



\$217 MM



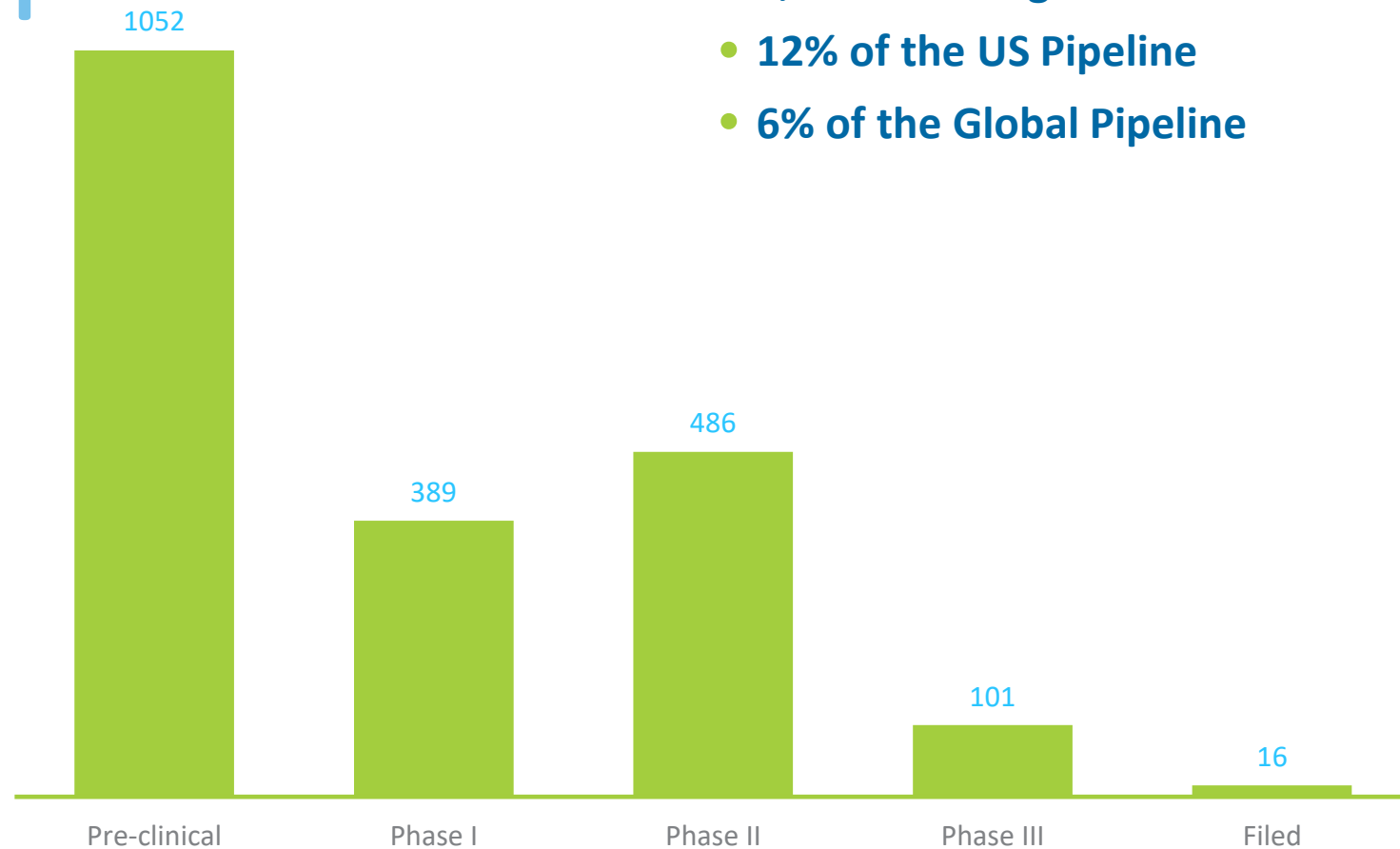
\$300 MM



Massachusetts Drug Development Pipeline

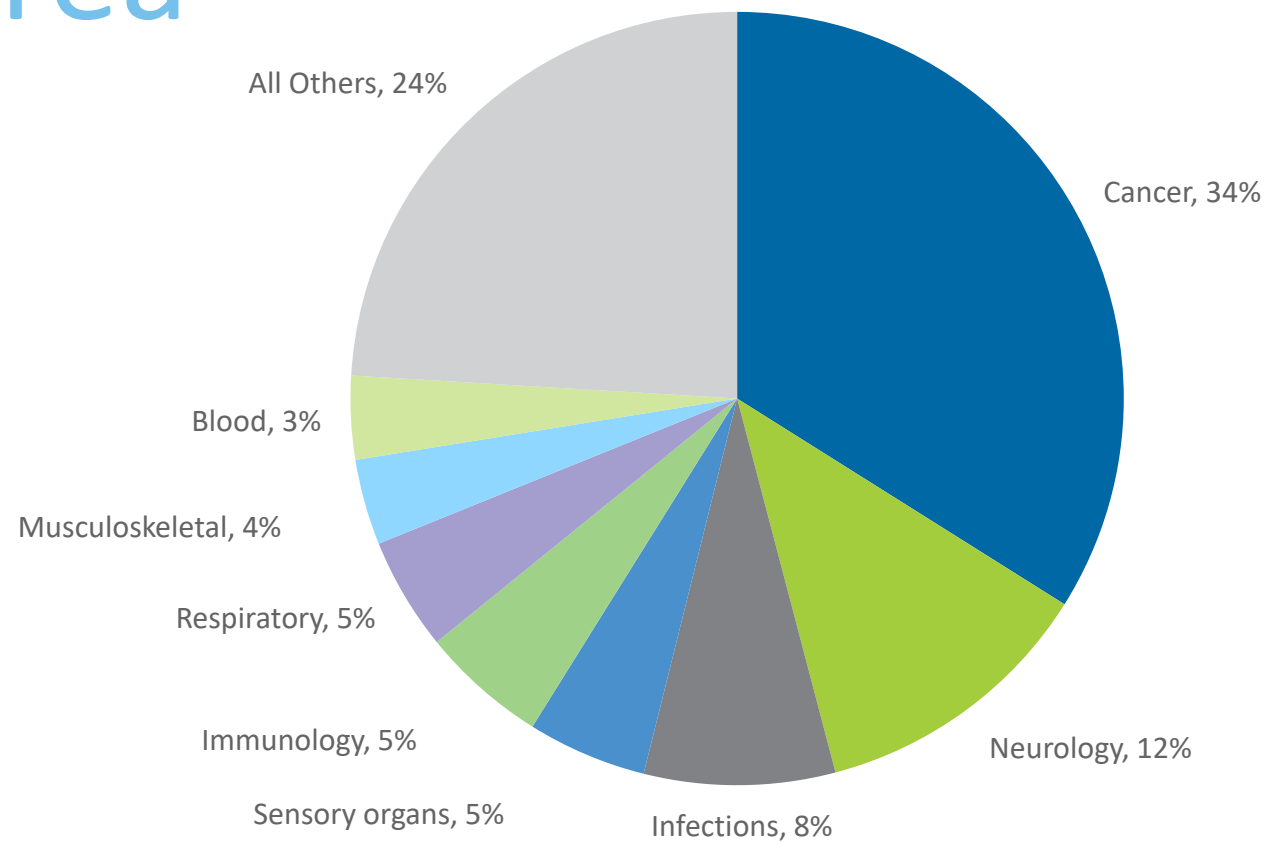
- 2,056 MA Drug Candidates*
- 12% of the US Pipeline
- 6% of the Global Pipeline

The Massachusetts drug development pipeline includes **16 candidates** pending FDA approval.



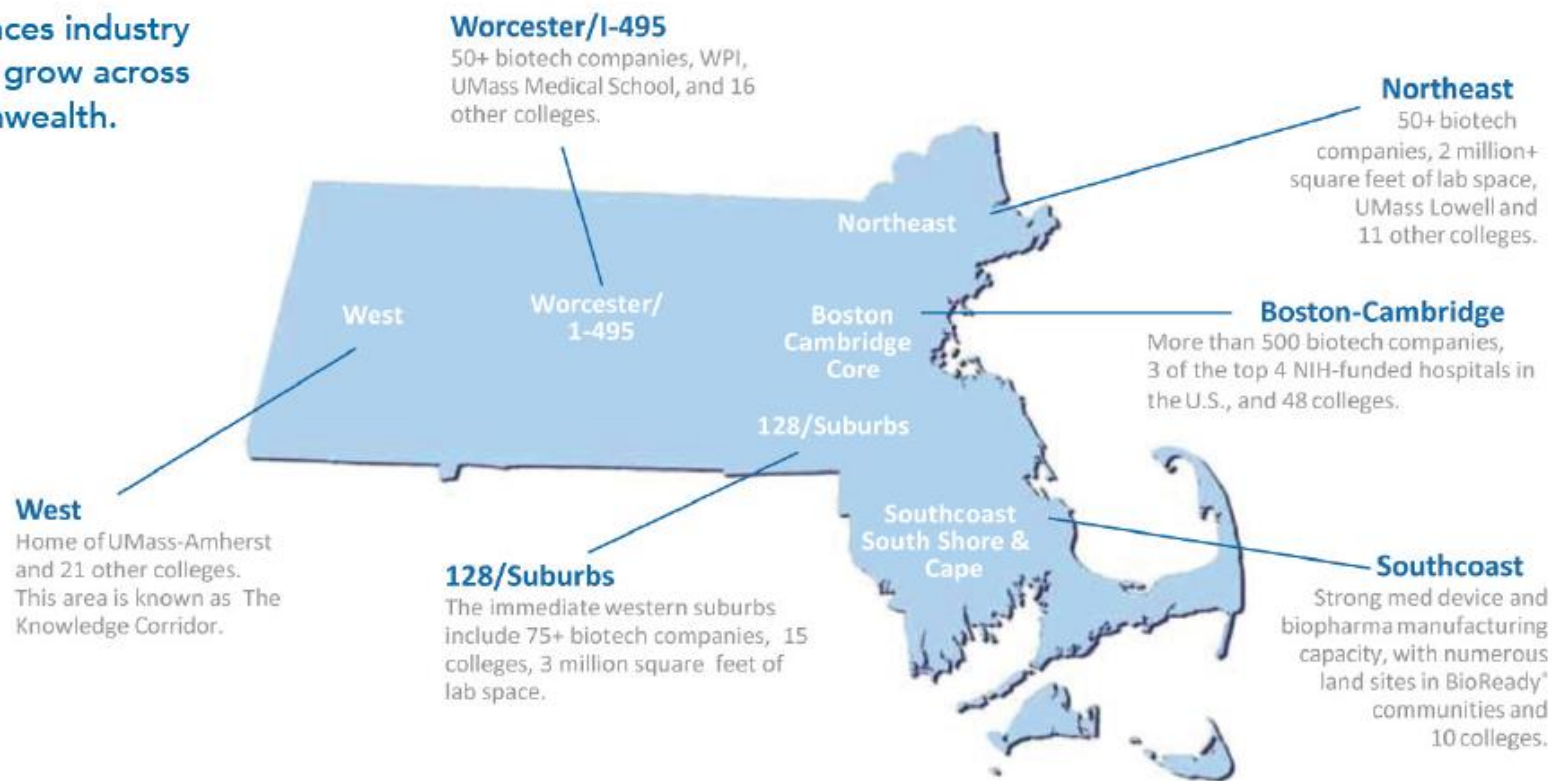
Massachusetts Pipeline by Therapeutic Area

Oncology continues to be the most frequently researched therapeutic area in Massachusetts.



Industry Growth Across the State

The life sciences industry continues to grow across the Commonwealth.





Challenges Ahead

Critical gaps and improvements needed for the cluster to thrive and to grow sustainably:

- The lack of affordable space and efficient transportation system
- Sourcing essential talent to meet the future demands of the industry
- Availability of funding options to support entrepreneurs
- The ongoing national debate over healthcare costs and drug pricing



Opportunities for Growth

Within the next 5 years, the Massachusetts life sciences community is positioned to achieve balanced growth across multiple areas through four key opportunities:

Expand the R&D footprint beyond oncology and rare diseases *to address health needs of the broader population, such as cardiovascular, neurological and addiction-related health needs, and to create greater interconnection between core biology and algorithms to improve life sciences R&D*

Position Massachusetts as a center for the convergence of biotechnology, medical technology, and digital health applications *to provide continuous patient monitoring, diagnostic capabilities and early intervention, greater clinician engagement, transformation of care, and acceleration of R&D*

Make the ecosystem more resilient to external shocks by growing the capabilities of commercialization and manufacturing of therapies *to ensure that Massachusetts benefits from the full pharmaceutical supply chain, not just R&D*

Continue to support expansion of the cluster and creation of mini-clusters beyond the Cambridge/Boston core *via continued support of new connected hubs*

Changing the Lives of Patients

Massachusetts-headquartered companies
have developed therapies that treat patient
populations of up to



264 MILLION PATIENTS
in the United States



2 BILLION PATIENTS
around the world

Why We Do What We Do - PATIENTDRIVEN®





Thank You!