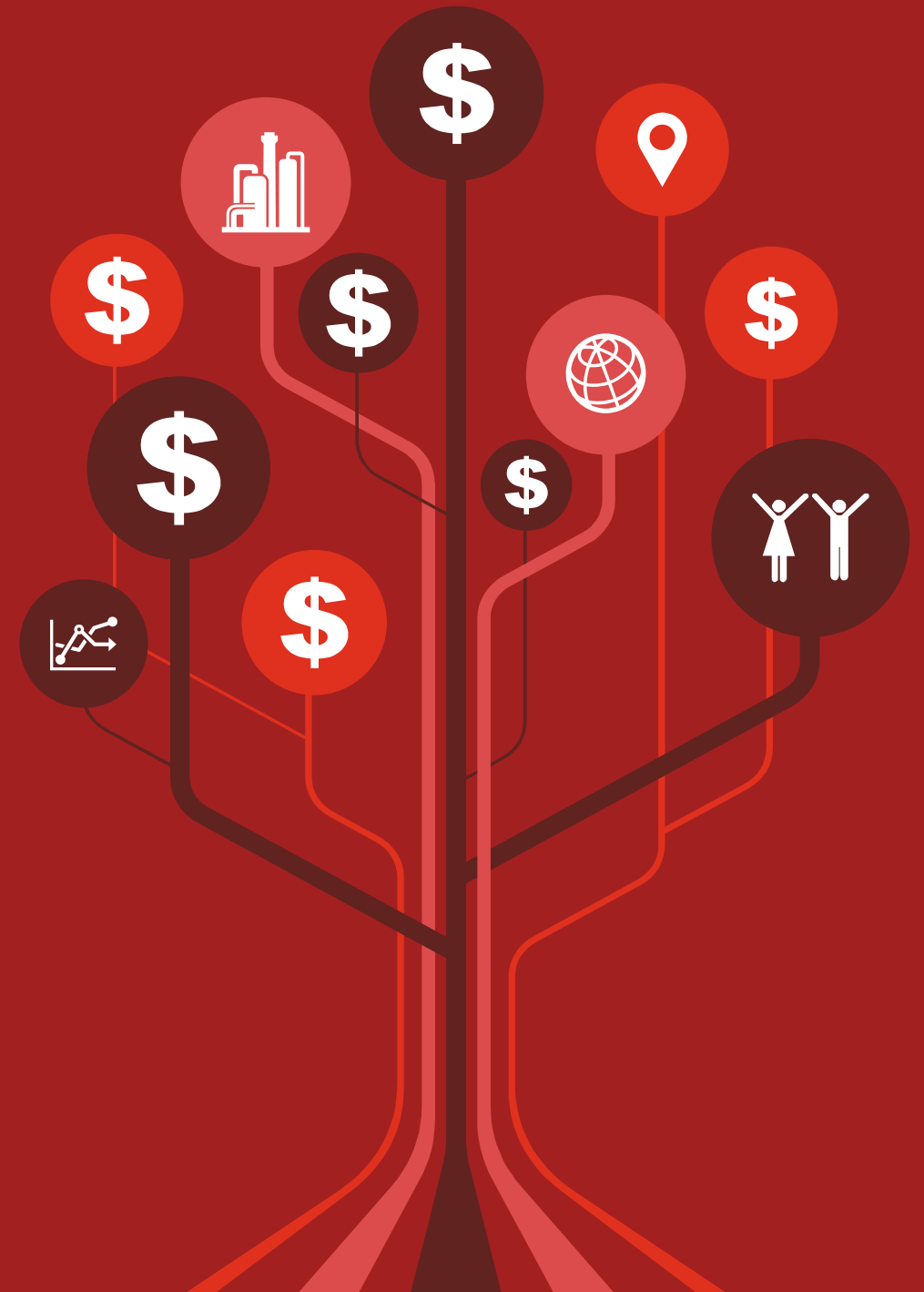


PwC / CB Insights

Healthcare MoneyTree™ Report

Q1 2019





01

US Healthcare Trends

- 1** Funding for VC-backed Healthcare companies in US raised \$4.2B in 162 deals.
- 2** Compared to Q4'18, the number of deals closed in Q1'19 increased by 3% from 158 to 162.
- 3** A total of \$1.6B was raised this quarter through 8 mega-rounds*, making up 38% of total deal dollars raised in Q1'19, a sharp increase from previous quarter.

* deals of \$100M or more in value.

02

US Healthcare Industries

- Of the \$4.2B raised in Q1'19, \$1.2B was invested in *Biotechnology related industries* while \$956M was invested in *Drug Development*.
- Compared to the prior quarter, Biotechnology related industries saw a 11% increase in funding.
- Drug Development related industries saw a 0.1% increase in funding from Q4'18 to Q1'19.

03

US Healthcare Places

- The top five Healthcare regions in the US were Silicon Valley, New England, New York Metro, Philadelphia Metro, and Texas.
- In Q1'19, Silicon Valley raised \$1.4B through 31 deals and is at the top of the rankings this quarter in terms of dollars raised. Out of the five mega-rounds in Q1'19, three were closed in Silicon Valley.
- New England followed in second place, raising \$1.0B across 38 deals.

04

US Healthcare Movers and Shakers

- Q1'19 had eight Healthcare mega-rounds closed.
- Alexandria Venture Investments and New Enterprise Associates were the most active venture capitalist, each investing in greater than or equal to 7 deals this quarter.
- There were nine Healthcare IPOs in Q1'19 raising in excess of \$1.0B.

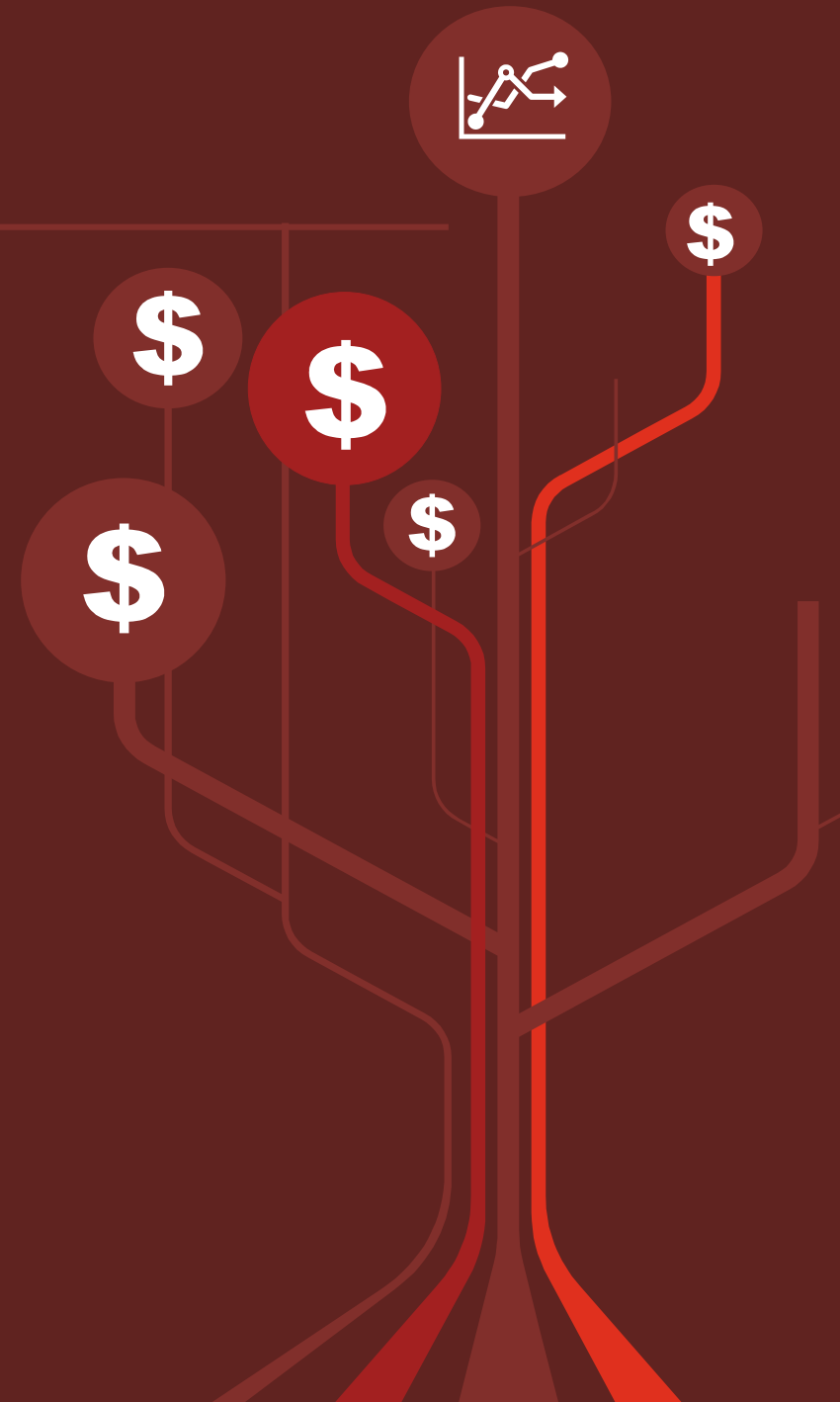
05

Global Healthcare Trends

- Globally, dollars invested increased from \$6.4B in Q4'18 to \$6.7B Q1'19. Additionally, deals decreased from 362 in Q4'18 to 358 deals in Q1'19.
- In Q1'19, 192 deals closed in North America, followed by 95 deals in Asia, and 72 deals in Europe.
- North America raised \$4.3B this quarter, while Asia raised \$1.4B and finally Europe raised \$978M.

01

US Healthcare Trends: Q1 2019



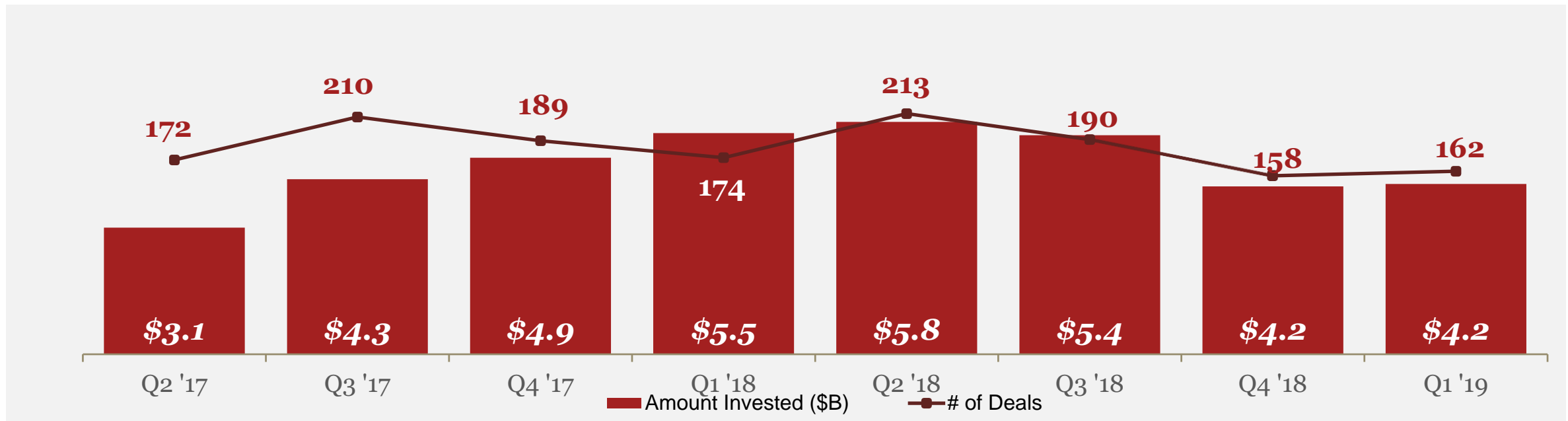
8-quarter Healthcare financing trends



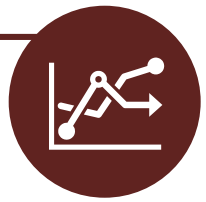
Healthcare deals increased in Q1'19

Dollars invested in US Healthcare **slightly increased** quarter to quarter at **\$4.17B** in Q4'18 to **\$4.22B** in Q1'19.

- Deal numbers have **increase by 3%** from the prior quarter and Q1'19 is the first increase (in deal numbers) after two quarters of decrease, with **162 deals** closing in Q1'19. The average deal value **decreased** from \$26.4M in Q4'18 to **\$26.0M in Q1'19**.
- Compared to the same quarter in FY'18, dollars invested **decreased 23%** and the number of deals **decreased 7%** in Q1'19.

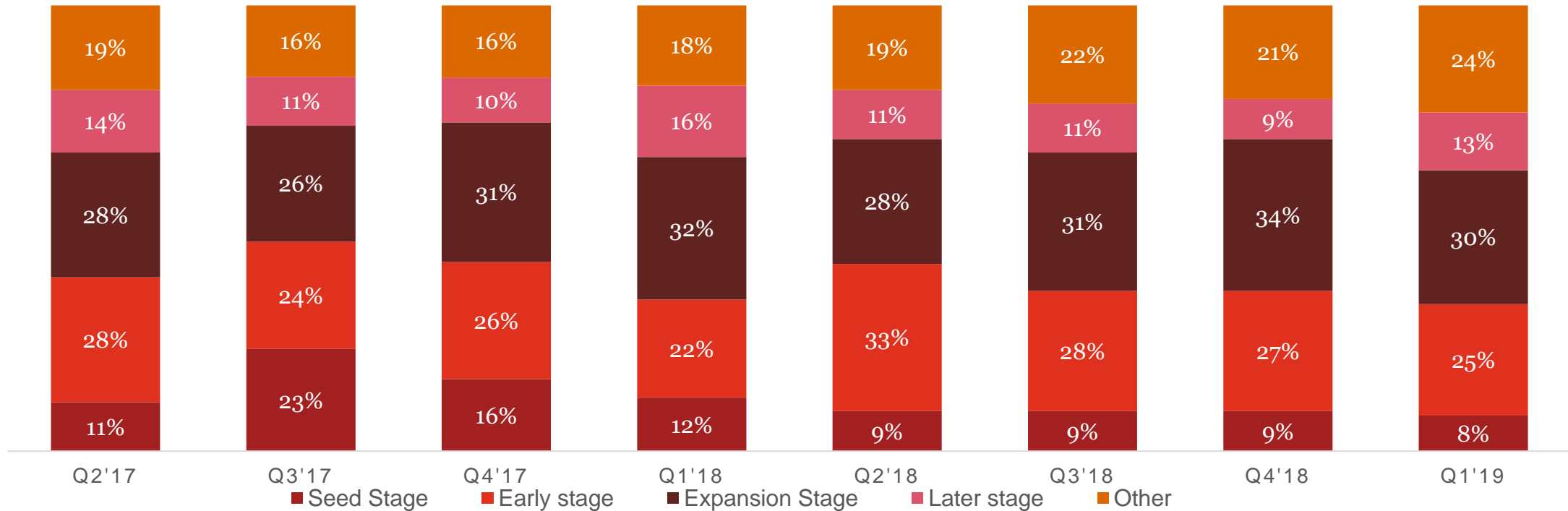


US Healthcare deal share by stage



Early and expansion stage deals made up the majority of deals

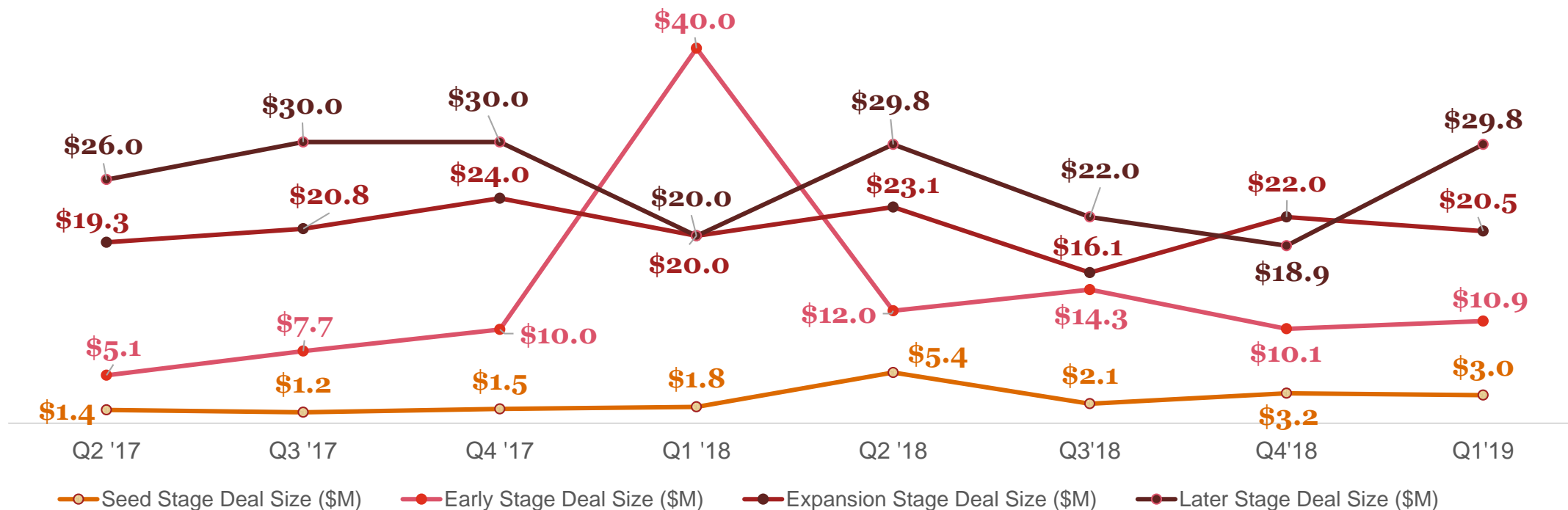
- **Early and expansion stage** deals continue to make up **more than half** of the dollars raised this quarter.
- **Seed stage activity** continues as the lowest share by stage.





Median US deal size by stage

- Median deal size for **Early and Later stage** companies **increased**, hitting **\$10.9M and \$29.8M** respectively. With an active IPO market, many later stage companies are opting for the IPO route vs raise private dollars.
- **Seed stage** companies median deal size saw a **decrease this quarter**, going to \$3.0M in Q1'19 from \$3.2M in Q4'18.
- **Expansion stage** companies median deal size saw a **decrease this quarter**, going to \$20.5M in Q1'19 from \$22.0M in Q4'18.



Healthcare sector trends



Biotechnology related industries raised \$2.8 billion

A total of **\$2.8B** invested into **Biotechnology related industries** in Q1'19, which represents an **7% decrease** from Q4'18, while deals **slightly increased** quarter over quarter from 94 deals in Q4'18 to 100 deals in Q1'19.

- The **Medical Devices & Equipment related industries** increased quarter over quarter to **\$701M** in funding and a **6% decrease** in deals from Q4'18.
- **Other Healthcare related industries increased** quarter over quarter to **\$700M** in funding and a **6% increase** in deals from Q4'18.

Percentage change in dollars invested Q1'19/Q4'18



7% ↓

Biotechnology
Related
Industries



7% ↑

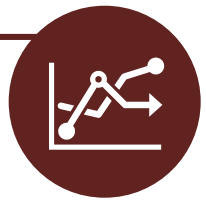
Medical Devices &
Equipment
Related Industries



44% ↑

Other Healthcare

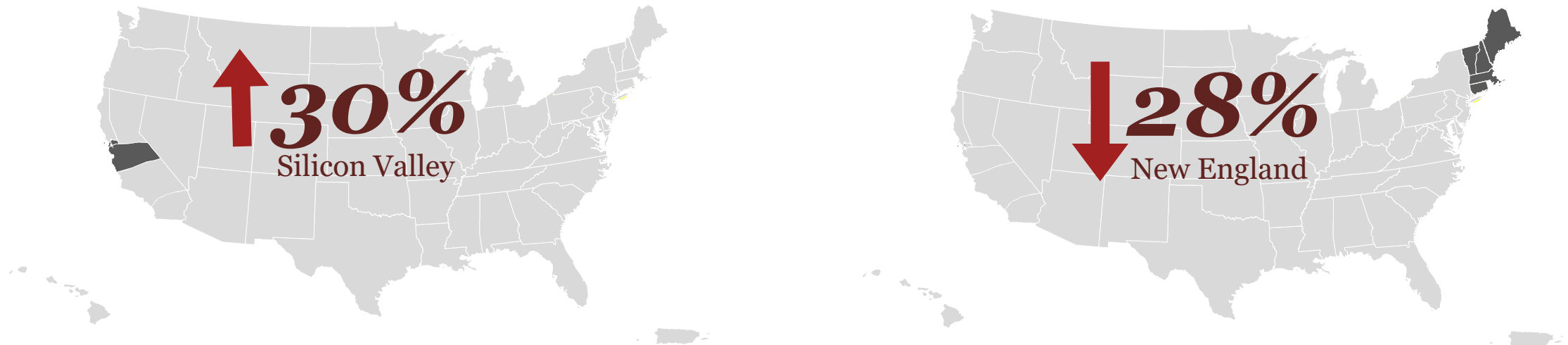
Regional Healthcare trends



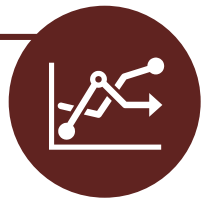
Silicon Valley leads above New England in dollars invested in Q1'19

- **Silicon Valley** is above **New England** in dollars invested in Q1'19, with **\$1,369 M** raised this quarter through **31** deals. Of the 31 deals closed in Silicon Valley, **3 were mega-rounds**, which raised a total of **\$590M**.
- **New England** followed behind and saw an **28%** decrease in funding to **\$1,040M** when compared to the prior quarter. Additionally, they experienced a decrease in number of deals closed from **31** in Q4'18 to **38** in Q1'19.
- **New England** held **25% of the US Healthcare market share** for total deal dollars invested in Q1'19, while **Silicon Valley** accounted for **32%** of total deal dollars. Together, both regions accounted for more than half of the total deal dollars in the country this quarter.

Percentage change in dollars invested Q1'19/Q4'18



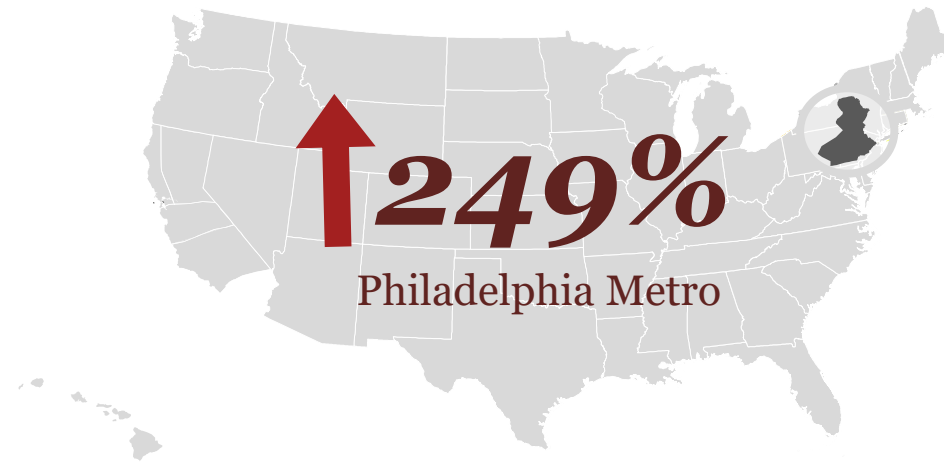
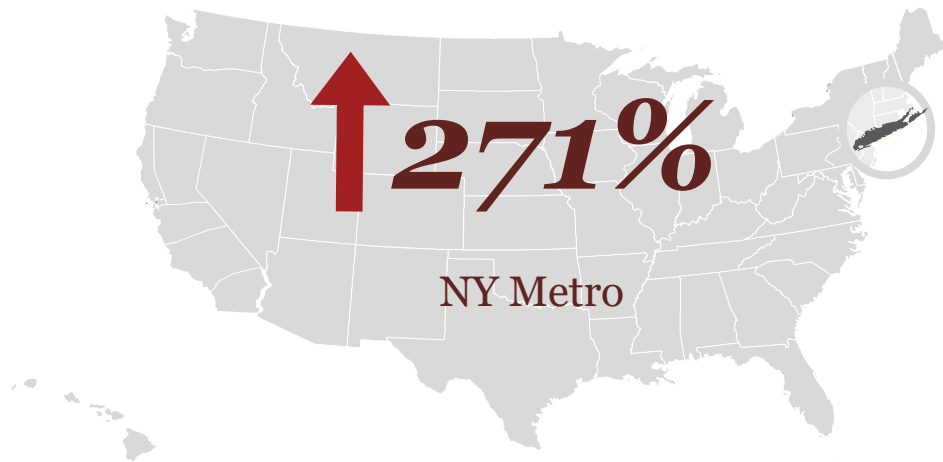
Regional Healthcare trends (cont.)



Changes in other US regions:

- **New York Metro** ended in third place, raising **\$939M** through **16 deals** in Q1'19, a **271% increase** from the prior quarter. Out of the 8 mega-rounds closed in Q1'19, 1 was from this region.
- **Philadelphia Metro** raised **\$281M in fourth place** through **12 deals** in Q1'19, a **249% increase** from the prior quarter. The number of deals also increased from 6 in Q4'18 to 12 in Q1'19.

Percentage change in dollars invested Q1'19/Q4'18

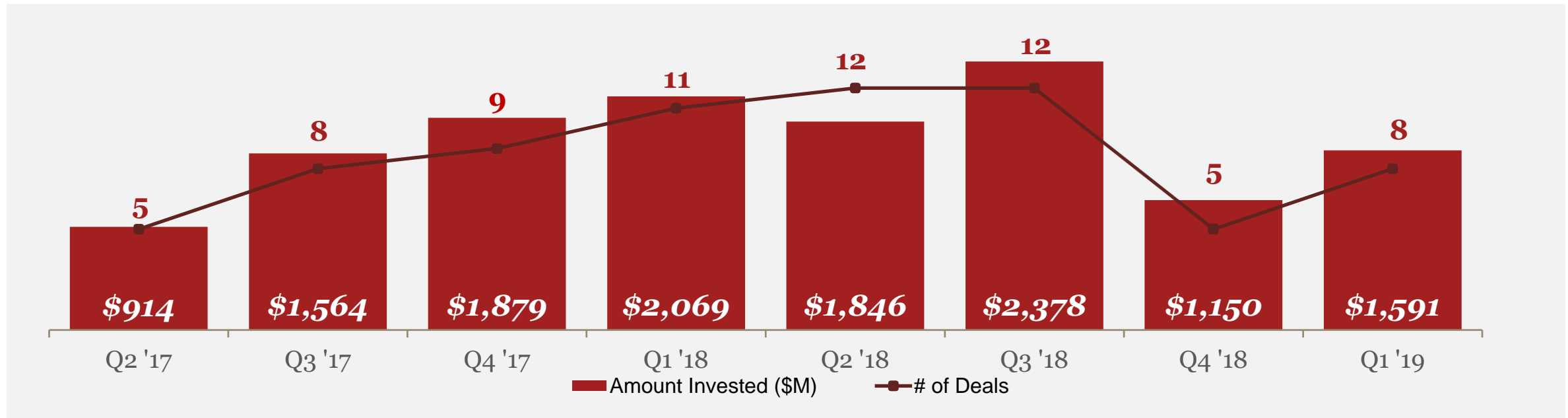


US Healthcare mega-rounds



Mega-round financing saw another strong quarter, reaching a record number of deals

- US Healthcare mega-round financing raised **\$1.6B** in Q1'19, which was a **38% increase** from the mega-round funding in the prior quarter. Mega-round activity also declined with 8 deals closing in Q1'19.
- Dollars raised from mega-round deals made up **38%** of the total dollars raised in Q1'19, an increase of **38%** change from Q4'18.
- The average size of a mega-round deal was **\$199M** in Q1'19, which is 4% more than the **\$191M** average mega-round deal size in the past 8 quarters.



02

US Healthcare Industries: Q1 2019



Top five US Healthcare Industries over the last five quarters



Trends:

- The **Biotechnology** subsector lead the Healthcare industry in Q1'19 in terms of dollars invested, raising \$1,186M, a 11% increase from Q4'18 raising \$1,065M. Out of the 39 deals , closed, 4 were mega-round deal which contributed \$592M of the dollars invested in this quarter.
- The **Drug Development** sub sector maintained second place this quarter with \$956M dollars invested, a 0.1% increase from Q4'18. Out of the 30 deals closed, 2 were mega-round deal.
- The **Medical Devices & Equipment** industry raised \$701M, increase of 7% from Q4'18, in terms of dollars invested. Total deal was 44. There was no mega-round deal.

	Biotechnology	Drug Development	Medical Devices & Equipment	Medical Facilities & Services	Drug Discovery
Q1 2019	\$1,186 39 Deals	\$956 30 Deals	\$701 44 Deals	\$676 14 Deals	\$303 9 Deals
Q4 2018	\$1,064 49 Deals	\$956 22 Deals	\$714 10 Deals	\$654 46 Deals	\$425 10 Deals
Q3 2018	\$2,158 60 Deals	\$879 30 Deals	\$760 46 Deals	\$581 11 Deals	\$487 11 Deals
Q2 2018	\$2,141 73 Deals	\$1,291 32 Deals	\$872 58 Deals	\$487 21 Deals	\$374 8 Deals
Q1 2018	\$1,998 53 Deals	\$1,112 20 Deals	\$821 56 Deals	\$550 16 Deals	\$367 8 Deals



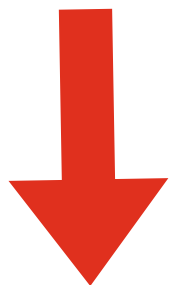
Q1'19 Deep Dive:

Biotechnology related industries

“ Down from a record investing pace in 2018, biotechnology related industries still had a strong showing in Q1'19 as investors poured over \$2.8B into the industry. Although total dollars were down 7% from the previous quarter, the number of investments increased indicating a positive investor outlook for 2019.

— Greg Vlahos, Bay Area & Northwest Region Life Science Leader at PwC

”



7%

Increased in funding
compared to Q4'18

Largest Biotechnology and related industries deals in Q1'19:

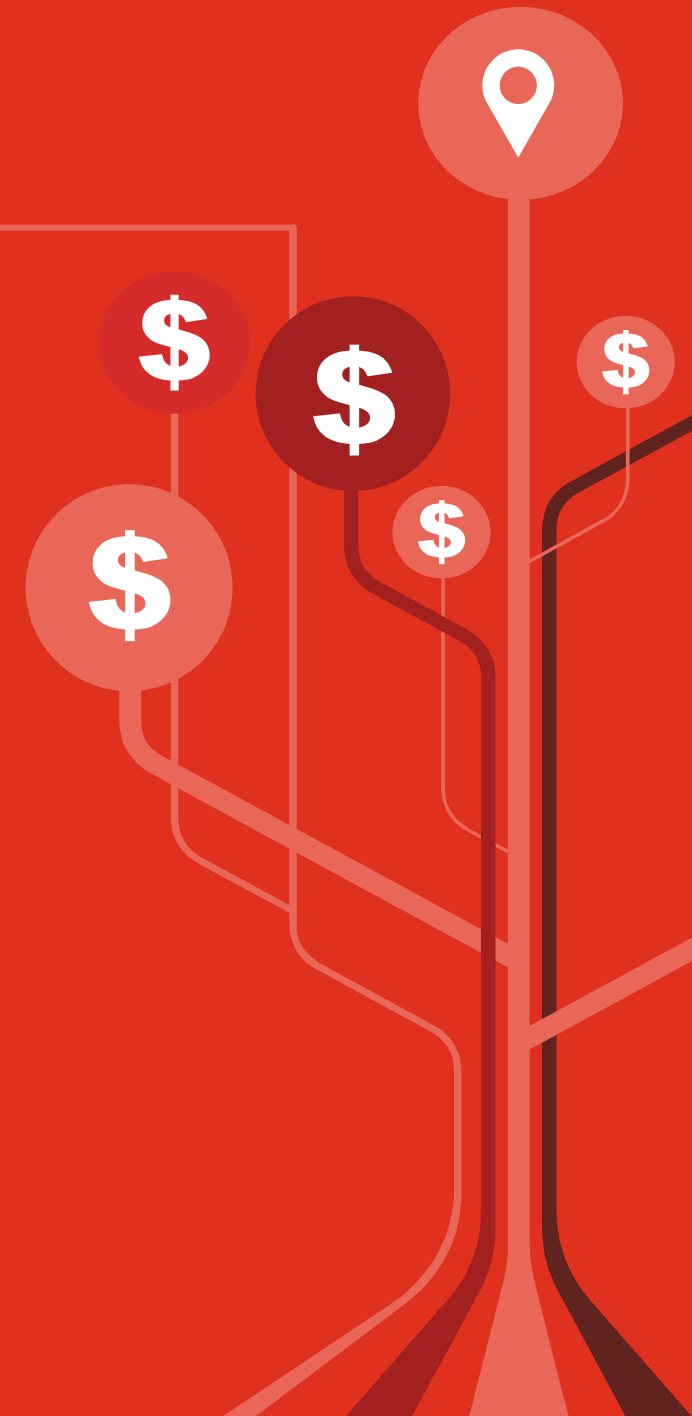
\$191M *Maze Therapeutics*

\$150M *Peloton Therapeutics*

\$135M *Beam Therapeutics*

03

US Places: Q1 2019



US Healthcare: Top five regions by deal value in Q1'19



31 Deals

Avg. Deal Size: \$44.1M



Silicon Valley \$1,369M

38 Deals

Avg. Deal Size: \$27.4M



New England \$1,040M

16 Deals

Avg. Deal Size: \$58.7M



New York Metro \$939M

12 Deals

Avg. Deal Size: \$23.4M



Philadelphia Metro \$281M

6 Deals

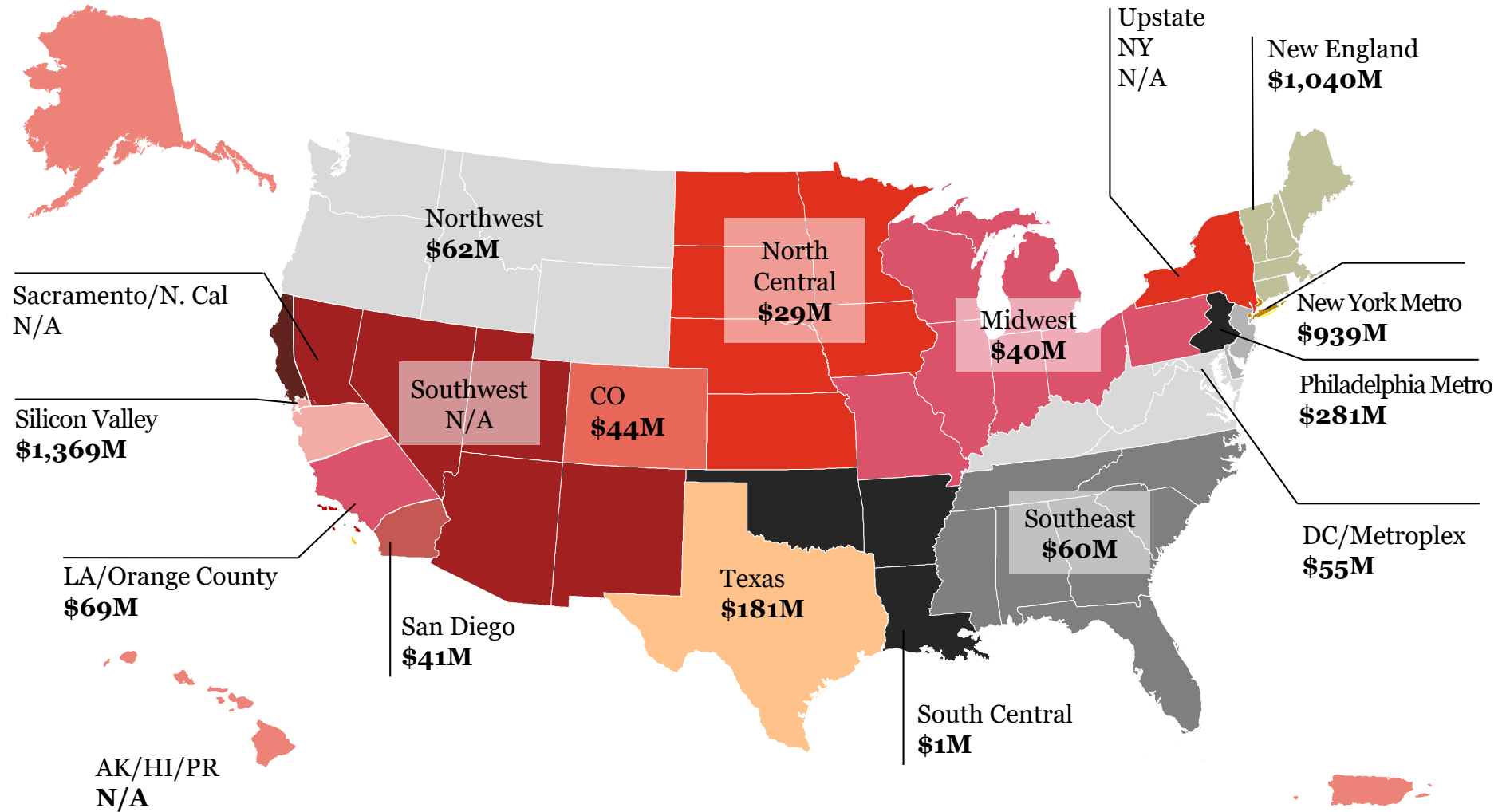
Avg. Deal Size: \$30.2M



Texas \$181M



US Healthcare: All US regions in Q1'19

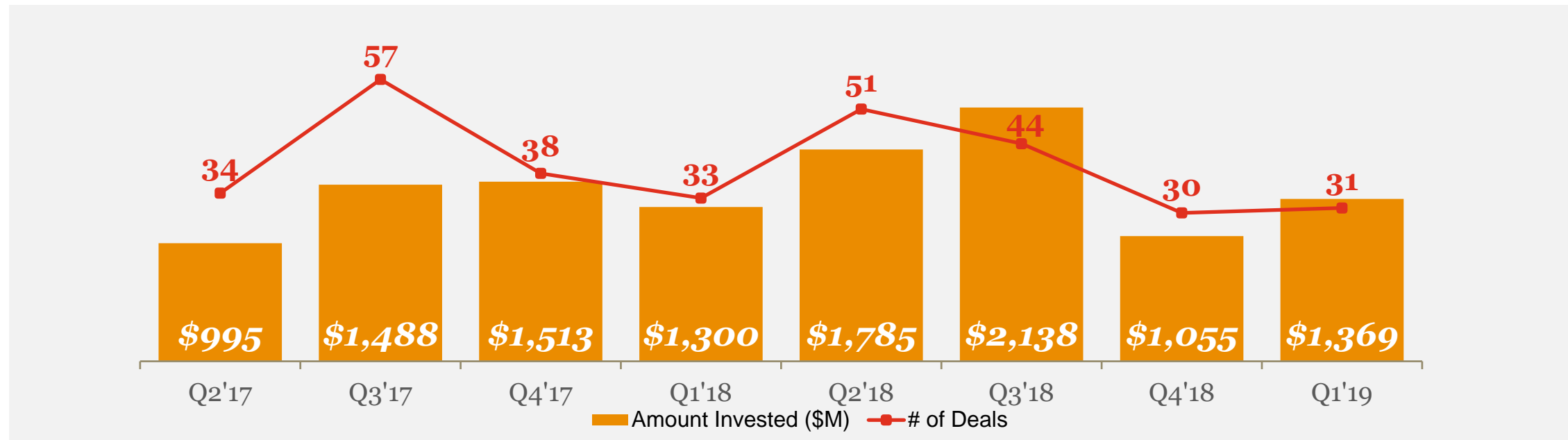


8-quarter financing trend: Silicon Valley



Dollars and deals invested in Silicon Valley increased this quarter

- **Silicon Valley in Q1'19, raising \$1.4B in 31 deals.** Average deal size has **increased 26%**, with deals in **Q1'19 closing at an average size of \$44M** compared to an average size of **\$35M in Q4'18**.
- The region raised **\$590M through three mega-rounds**. The dollars invested in mega-round deals made up more than **43% of the total dollars** raised in the region this quarter.

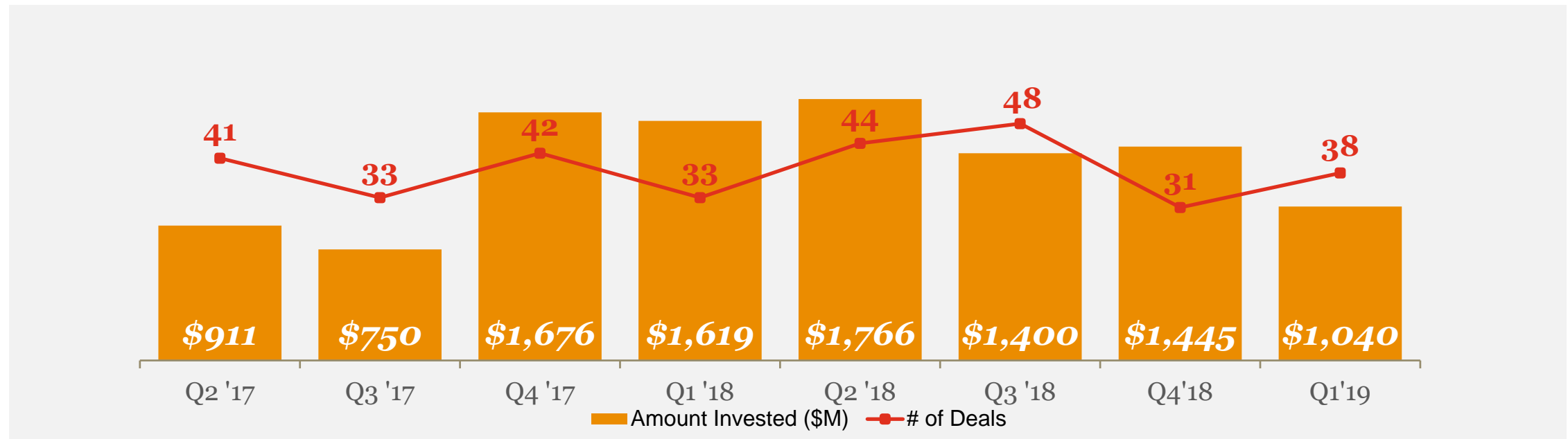


8-quarter financing trend: New England



Dollars invested in New England decreased in Q1'19 as Q4'18

- **New England raised \$1B** this quarter, **decreased 28% from prior quarter**. Additionally, the number of deals closed **increased from 31 in Q4'18 to 38 in Q1'19**. Average deal size was **\$27M in Q1'19**.
- **Mega-rounds** accounted for **23%** of the dollars invested in Q1'19 in this region, compared to 48% in Q4'18. With the same mega deals of 2 in this region in Q4'18 and Q1'19.



US: Top 10 states by deal value in Q1'19



1. **CA** **\$1,485M**
45 Deals,
Avg. Deal Size: **\$33M**

2. **MA** **\$1,017M**
33 Deals,
Avg. Deal Size: **\$31M**

3. **NJ** **\$608M**
5 Deals,
Avg. Deal Size: **\$122M**

4. **NY** **\$331M**
11 Deals,
Avg. Deal Size: **\$30M**

5. **PA** **\$291M**
13 Deals,
Avg. Deal Size: **\$22M**

6. **TX** **\$181M**
6 Deals,
Avg. Deal Size: **\$8M**

7. **NC** **\$53M**
3 Deals,
Avg. Deal Size: **\$18M**

8. **WA** **\$49M**
6 Deals,
Avg. Deal Size: **\$8M**

9. **CO** **\$44M**
7 Deals,
Avg. Deal Size: **\$6M**

10. **MD** **\$35M**
7 Deal,
Avg. Deal Size: **\$5M**

04

US Healthcare Movers and Shakers: Q1 2019



Largest Healthcare Deals in Q1'19



Company	Location	Industry	Stage of Funding	\$ Value of Deal	Select Investors
Clover Health	Jersey City, NJ	Medical Facilities & Services		\$500M	Greenoaks Capital Management
BridgeBio Pharma	Palo Alto, CA	Drug Development		\$299M	Aisling Capital; American International Group; Cormorant Capital; Hercules Capital; Kohlberg Kravis Roberts & Co.; Perceptive Advisors; Sequoia Capital; Undisclosed Investors; Viking Global Investors
Maze Therapeutics	Redwood City, CA	Biotechnology		\$191M	Alexandria Venture Investments; ARCH Venture Partners; Casdin Capital; Foresite Capital; Google Ventures; Third Rock Ventures
Peloton Therapeutics	Dallas, TX	Biotechnology		\$150M	BVF Partners; Curative Ventures; Driehaus Capital Management; EcoR1 Capital; Eventide Asset Management; Foresite Capital; Nextech Invest; OrbiMed Advisors; RA Capital Management; The Column Group; Tichenor Ventures; Topspin Partners; Vida Ventures
Beam Therapeutics	Cambridge, MA	Biotechnology		\$135M	Altitude Life Science Ventures; ARCH Venture Partners; Cormorant Asset Management; Eight Roads Ventures; F-Prime Capital; Google Ventures; Omega Fund Management; Redmile Group
Passage Bio	Philadelphia, PA	Biotechnology		\$116M	Frazier Healthcare Partners; Lilly Asia Ventures; New Leaf Venture Partners; OrbiMed Advisors; Vivo Capital
Apollomics	Foster City, CA	Drug Development		\$100M	CMB International Capital; Fortune United Partners; Guangzhou Yuemintou Yinglian Investment Fund Partnership; Junson Capital; K2VC; OrbiMed Advisors; Qiming Venture Partners; South China Venture Capital



Most active venture capital firms in Healthcare in Q1'19



Investor	Location	No. of Companies	Select Q1'19 Investments
1. Alexandria Venture Investments	Pasadena, CA	9	Karuna Therapeutics; Immusoft; Imara; Frequency Therapeutics; Gencove; Prevail Therapeutics; Tiburio Therapeutics; Dewpoint Therapeutics; Maze Therapeutics
2. New Enterprise Associates	Menlo Park, CA	7	Solace Therapeutics; 3-V Biosciences; Eargo; Imara; Black Diamond Therapeutics; Oyster Point Pharma; Tiburio Therapeutics
3. Deerfield Management	New York, NY	7	PQ Bypass; Farapulse; Ribon Therapeutics; Axon Therapies; Vibliome Therapeutics; Cabaletta Bio; Lab1636
4. Johnson & Johnson Innovation	Cambridge, MA	6	Ribon Therapeutics; Third Pole Therapeutics; Artizan Biosciences; Hyalex Orthopaedics; Vor Biopharma; NXT Biomedical
5. RA Capital Management	Boston, MA	6	Peloton Therapeutics; Imara; Black Diamond Therapeutics; Prevail Therapeutics; Attune Pharmaceuticals; Vor Biopharma

Healthcare IPOs in Q1'19

“ Although we saw a slowdown in activity while the government was shutdown early in the quarter, healthcare IPOs still had a strong showing with 9 IPOs raising over \$1B. ”

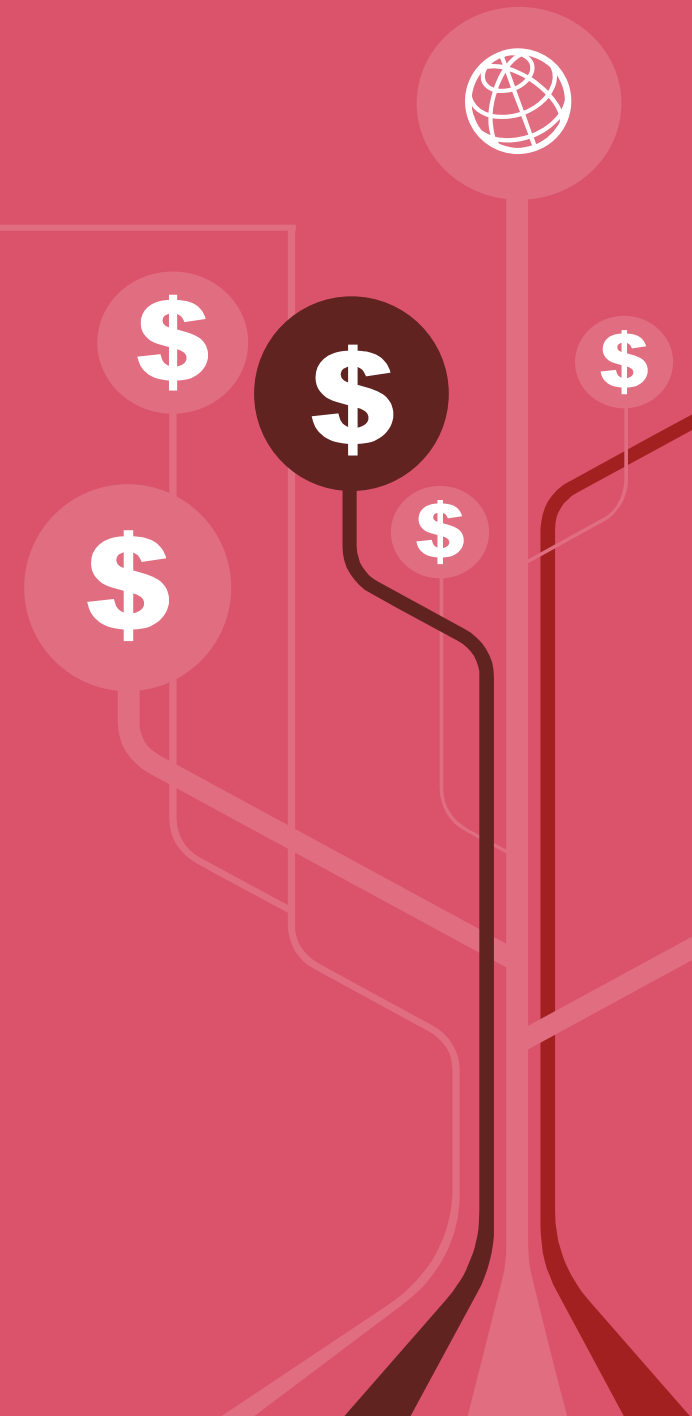
— Greg Vlahos, Bay Area & Northwest Region Life Science Leader at PwC



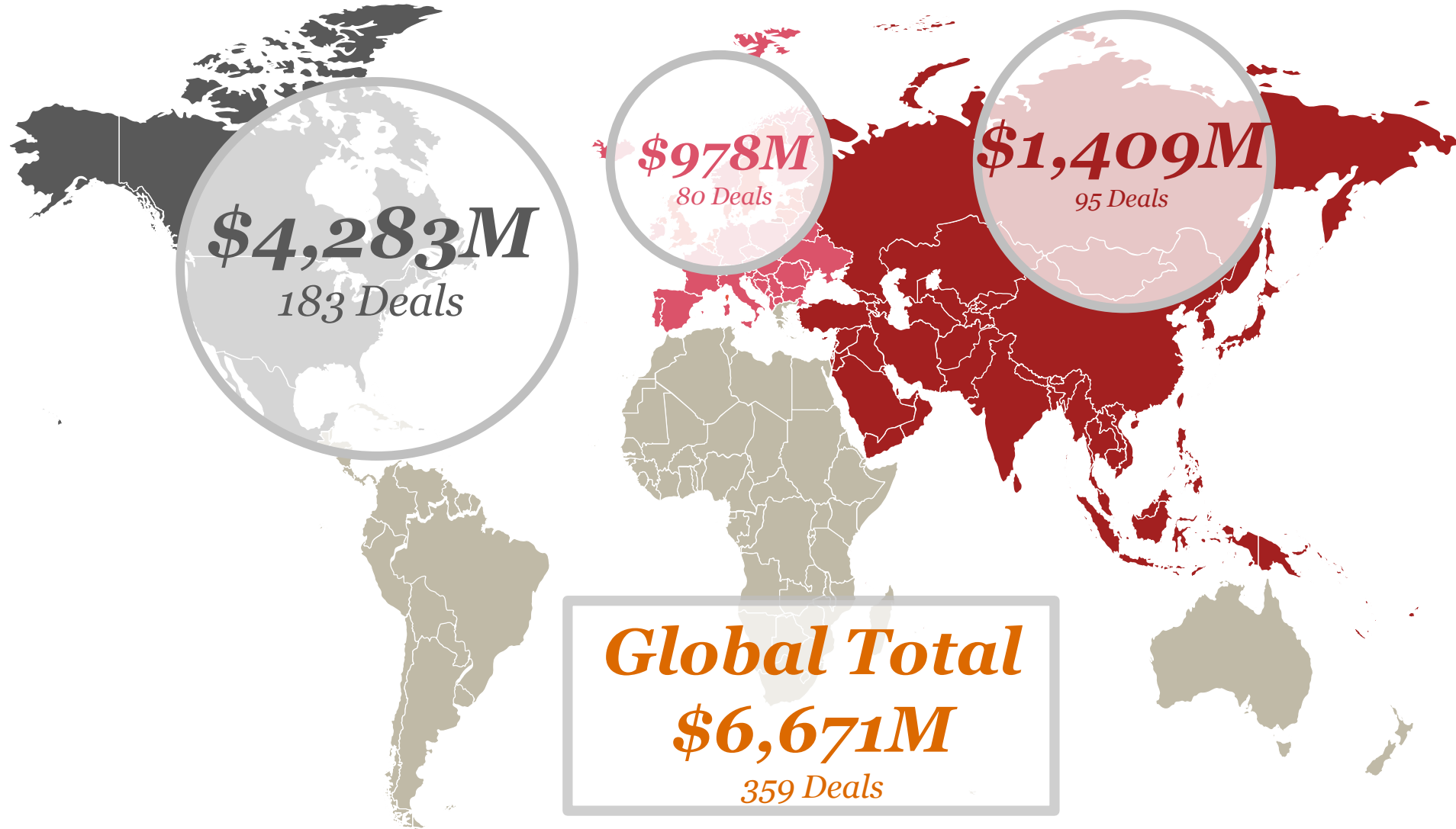
Company	Location	Industry	\$ Amount
Gossamer Bio	San Diego, CA	Drug Development	\$276M
Alector	South San Francisco, CA	Biotechnology	\$167M
Precision BioSciences	Durham, NC	Biotechnology	\$126M
Shockwave Medical	Fremont, CA	Medical Devices & Equipment	\$97M
Stealth BioTherapeutics	Newton, MA	Biotechnology	\$78M
Harpoon Therapeutics	South San Francisco, CA	Drug Development	\$76M
TCR2 Therapeutics	Cambridge, MA	Biotechnology	\$75M
Kaleido Biosciences	Bedford, MA	Biotechnology	\$75M
Avedro	Waltham, MA	Medical Devices & Equipment	\$70M

05

Global Healthcare Trends: Q1 2019



Global Healthcare comparisons for Q1'19

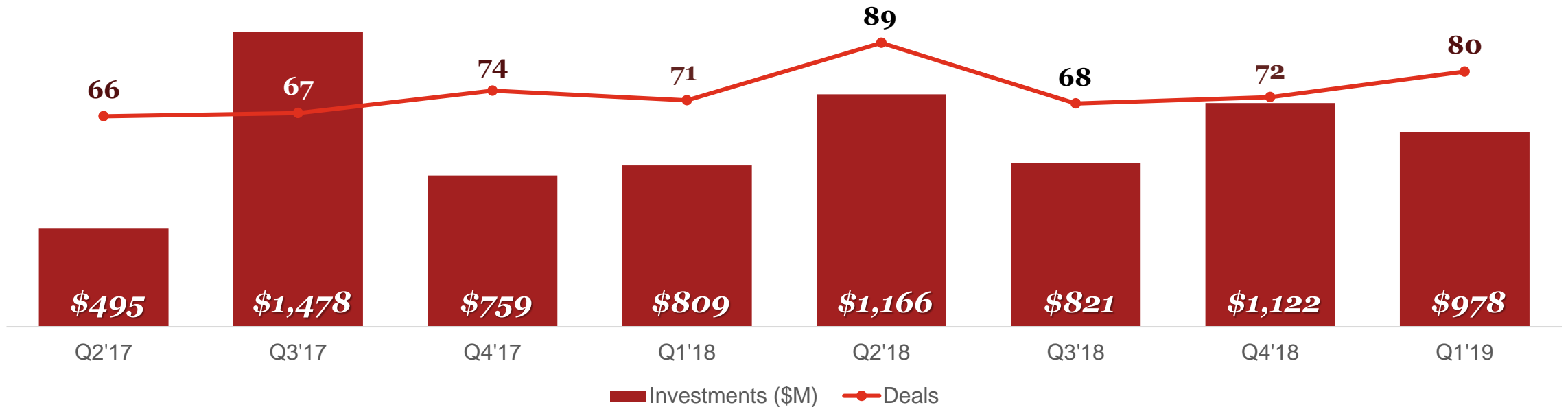


8-quarter financing trend: Europe



Deals and dollars remained constant in Europe

- Funding to European based Healthcare companies missed the billion dollar mark at \$978M, but saw an increase of 11% at 80 deals.
- More than half of deals for Q1 went to early stage healthcare companies with just one mega round to Arvelle Therapeutics an early stage Drug Development company.

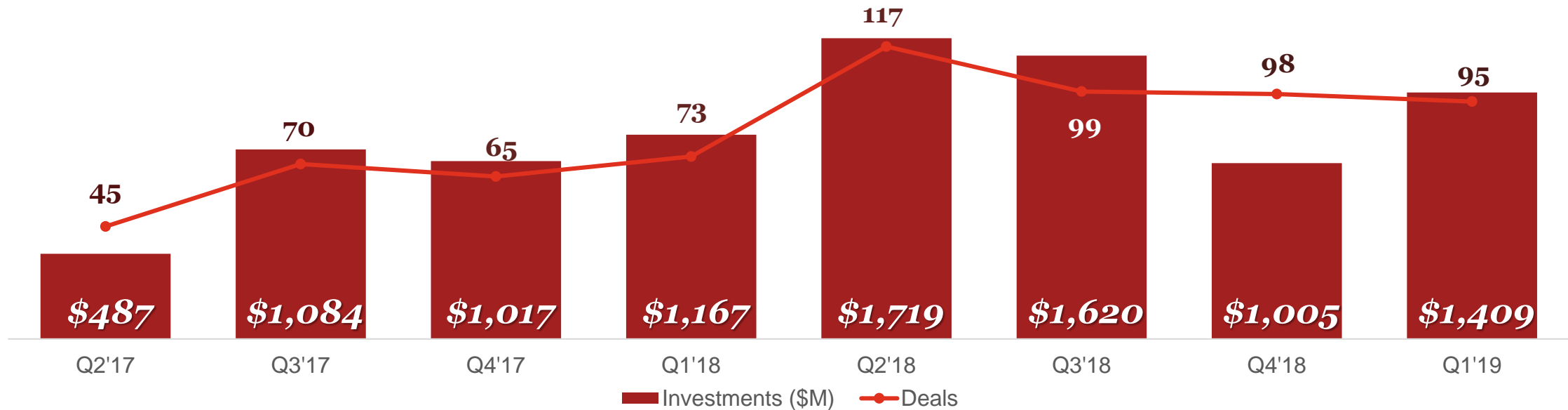


8-quarter financing trend: Asia



Asia received increase in funding in Q1'19, with \$1.4 billion in total funding

- Despite deals being down by 3% funding to Asia based Healthcare bounced back to 40% at \$1.4B for Q1. Asia dollars were down by 45%, one of the lowest reported in the past 6 quarters.
- There were four mid-stage Healthcare companies that brought in over \$100M for Q1. Largest was at \$160M for InnoCare a company developing drug candidates for treating autoimmune diseases.



Appendix

US States: Full listing

State	\$M	No. of Deals	State	\$M	No. of Deals	State	\$M	No. of Deals	State	\$M	No. of Deals
California	\$1,485	45	Massachusetts	\$1,017	33	North Carolina	\$53	3	Texas	\$181	6
Colorado	\$44	7	Michigan	\$14	2	Ohio	\$13	2	Virginia	\$20	4
Connecticut	\$16	46	Minnesota	\$29	5	Oregon	\$5	1	Washington	\$49	6
Florida	\$0	1	Missouri	\$2	1	Pennsylvania	\$291	13			
Indiana	\$0	1	Montana	\$8	1	Rhode Island	\$7	1			
Louisiana	\$1	1	New Jersey	\$608	5	South Carolina	\$5	1			
Maryland	\$35	7	New York	\$331	11	Tennessee	\$1	1			

No disclosed quarterly activity: AL, AK, AZ, AR, DE, GA, HI, ID, IL, IA, KS, KY, ME, MS, NE, NV, NH, NM, ND, OK, SD, UT, VT, WV, WI, WY.

Notes on methodology

PwC (pwcmoneytree.com) and CB Insights (cbinsights.com) encourage you to review the methodology and definitions employed to better understand the numbers presented in this report. If you have any questions about the definitions or methodological principles used, we encourage you to reach out to CB Insights directly. Additionally, if you feel your firm has been underrepresented, please send an email to info@cbinsights.com and we can work together to ensure your firm's investment data is up-to-date.

Rankings, e.g., top states and top sectors, are done by quarterly deal value (that is, dollars invested for the given quarter).

For full analysis of Q1'19 activity across all sectors, refer to the PwC / CB Insights MoneyTree™ Report.

What is included:

- Equity financings into emerging companies. Fundings must be to VC-backed companies, which are defined as companies who have received funding at any point from either: venture capital firms, corporate venture arms, or super angel investors.
- Fundings of private companies only. Funding rounds raised by public companies of any kind on any exchange (including Pink Sheets) are excluded from our numbers, even if they received investment by a venture firm(s).
- Only includes the investment made in the quarter for tranching investments. If a company does a second closing of its Series B round for \$5M and previously had closed \$2M in a prior quarter, only the \$5M is reflected in our results.
- Round numbers reflect what has closed – not what is intended. If a company indicates the closing of \$5M out of a desired raise of \$15M, our numbers reflect only the amount which has closed.
- Only verifiable fundings are included. Fundings are verified via (1) various federal and state regulatory filings; (2) direct confirmation with firm or investor; (3) press release; or (4) credible media sources.
- Equity fundings to joint ventures and spinoffs/spinouts are included, given that they meet the VC-backed criteria.
- Geography note: Israel funding figures are classified in Asia.

What is excluded:

- No contingent funding. If a company receives a commitment for \$20M subject to hitting certain milestones but first gets \$8M, only the \$8M is included in our data.
- No business development / R&D arrangements whether transferable into equity now, later or never. If a company signs a \$300M R&D partnership with a larger corporation, this is not equity financing nor is it from venture capital firms. As a result, it is not included.
- No buyouts, consolidations or recapitalizations. All three of these transaction types are commonly employed by private equity firms and are tracked by CB Insights. However, they are excluded for the purposes of this report.
- No private placements. These investments, also known as PIPEs (Private Investment in Public Equities), are not included even if made by a venture capital firm(s).
- No debt / loans of any kind (except convertible notes). Venture debt or any kind of debt / loan issued to emerging, startup companies, even if included as an additional part of an equity financing, is not included. If a company receives \$3M with \$2M from venture investors and \$1M in debt, only the \$2M is included in these statistics.
- No non-equity government funding. Grants or loans by the federal government, state agencies, or public-private partnerships to emerging, startup companies are not included.
- No fundings to subsidiaries of a larger parent corporation.

This content is for general information purposes only, and should not be used as a substitute for consultation with professional advisors. Data is current as of April 14, 2019. PricewaterhouseCoopers and CB Insights have taken responsible steps to ensure that the information contained in the MoneyTree™ Report has been obtained from reliable sources. However, neither PwC nor CB Insights can warrant the ultimate validity of the data obtained in this manner. Results are updated periodically. Therefore, all data is subject to change at any time.

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