

J.P.Morgan

Q2 2023 Biopharma Licensing and Venture Report

July 2023

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Executive summary

Biopharma is showing early signs of recovery, though some challenges remain

Biopharma therapeutics and discovery platform companies worked through another quarter of deal and funding challenges. There were improvements, however, as venture round averages and totals tracked higher in the second quarter.

M&A activity continued to track higher for valuable pipelines. Licensing partnerships remain challenging as sellers and buyers sometimes failed to agree on deal structure and economic terms.

Here are a few highlights from our second-quarter report:

- **Venture investment into therapeutics:** \$5.4 billion across 96 venture rounds in the second quarter of 2023, which were both higher than in Q1. Notable increases were seen in higher average first rounds as well as larger investment into companies with late-stage pipelines.
- **Biopharma licensing partnerships:** \$28 billion in total announced deal value across 114 deals were signed in Q2 2023 but was down sequentially off the high of \$51 billion in Q4 2022 and \$34 billion in Q1 2023. Big pharma continues to focus on licensing more early-stage platforms than clinical programs.
- **IPO and M&A:** Biopharma IPO completions were flat at \$621 million for one U.S. IPO in Q2. M&A deal activity continued to track higher but on a lower total dollar amount reflecting small-caps as the largest segment.

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Thank you for taking the time to read this report. We look forward to supporting you.

Kathryn McDonough
Head of Life Sciences
Innovation Economy, Commercial Banking
J.P. Morgan

Parameters

Biopharma companies are defined as firms developing therapeutics and technology platforms engaged in drug discovery, clinical R&D and commercialization.

Medtech companies are defined as firms developing medical devices, diagnostics, digital health therapeutics and research tools. Therapy areas, development stages and modalities are segmented per the DealForma database.

Financials are based on disclosed figures curated by DealForma. Multiple tranches of the same Series are counted as one together.

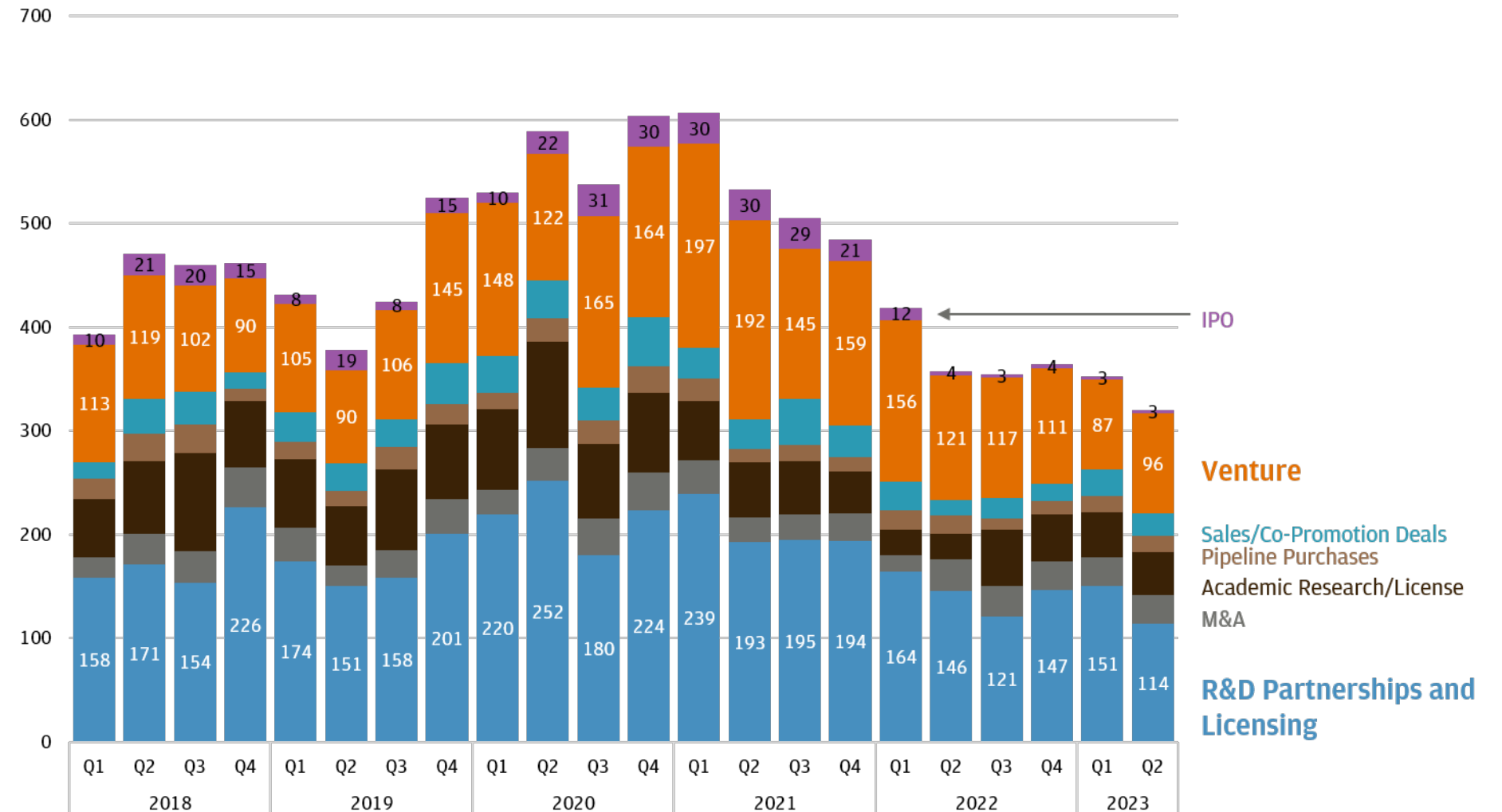
Data as of 6/30/2023

Biopharma dealmaking in perspective

Biopharma venture activity tracked higher in the second quarter of 2023 despite R&D licensing partnership and other transactions declining.

- 320 total transactions across venture rounds and IPOs, licensing deals, and M&A in the second quarter, coming in lower than Q1.
- 114 biopharma R&D licensing partnerships signed in Q2, the smallest count over the last five years.
- 96 venture rounds completed for drug and platform developers showing an uptick in venture activity in an otherwise challenging deal environment.

Biopharma Deal Flow: Total Number of Deals and Funding Rounds



Source: DealForma.com database
Financials based on disclosed figures. Data through 6/30/2023.

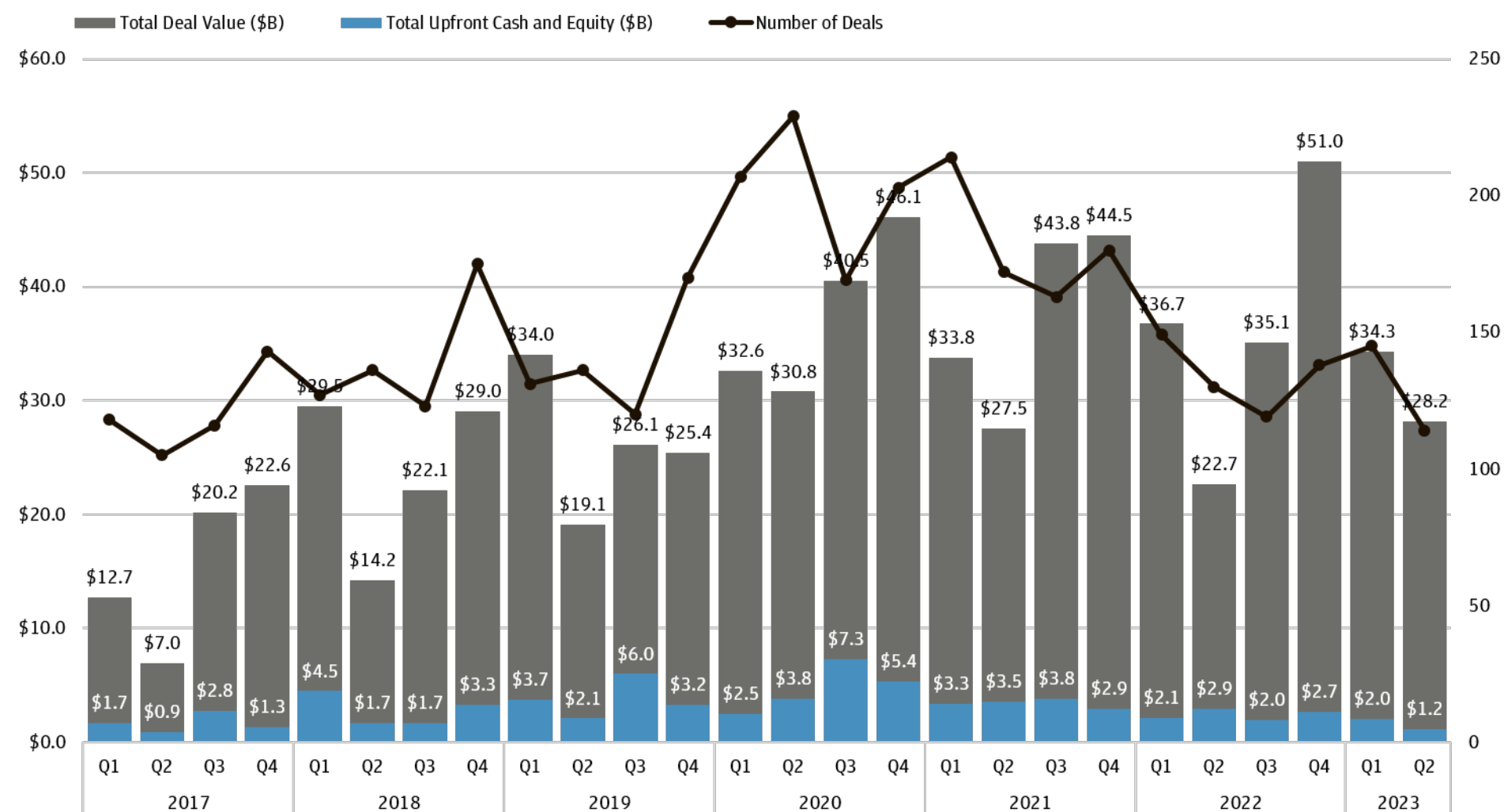
Biopharma Licensing and M&A

Biopharma deal activity was lighter in Q2

Quarterly biopharma licensing and partnership activity saw a smaller deal count in the second quarter after a steady increase in each of the preceding three quarters. Total deal value for the quarter was also lower than in the prior three quarters.

- 114 biopharma R&D licensing partnerships were signed in second quarter 2023, down from 145 in Q1.
- \$1.2 billion in total upfront cash and equity for licensing therapeutics and discovery platforms, down from \$2.0 billion in Q1 2023.
- \$28.2 billion in total announced deal values as buyers have been able to mitigate risk into a larger share of milestones-based payments.

Biopharma Therapeutics and Platforms: R&D Partnership/Licensing Totals (\$B) and Number of Deals



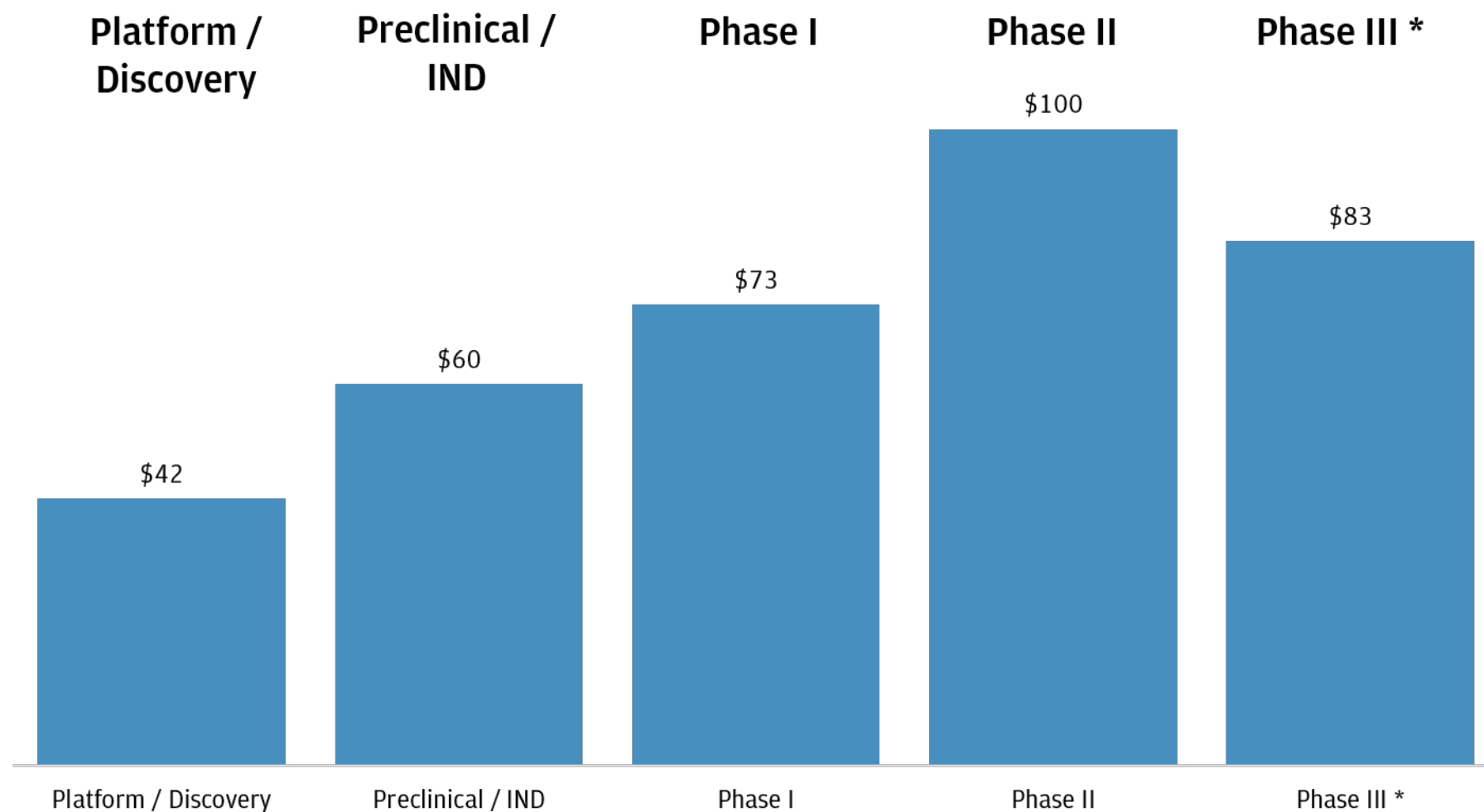
Source: DealForma.com database
Financials based on disclosed figures. Data through 6/30/2023.

Big pharma deals still reach triple-digit upfront payments for Phase II in-licenses

Large-cap biopharma (market cap of \$50 billion+) are still signing \$100 million-plus deal upfronts, albeit fewer of these than in previous years. Median upfront values have increased for deals that do make it through successful negotiations, however.

- Median upfront cash and equity payments from big pharma were up to \$100 million for Phase II programs for deals signed since 2022, a 37% increase over Phase I licenses.
- Phase III asset deals, which are often signed for less-than-worldwide licensed territories also saw a median upfront of \$83 million. Regional licenses to the same asset may be signed with multiple parties generating increased deal payments.

In-Licensing by Big Pharma: Median Upfront Cash & Equity by Stage at Signing. 2022-2023 YTD



Source: DealForma.com database

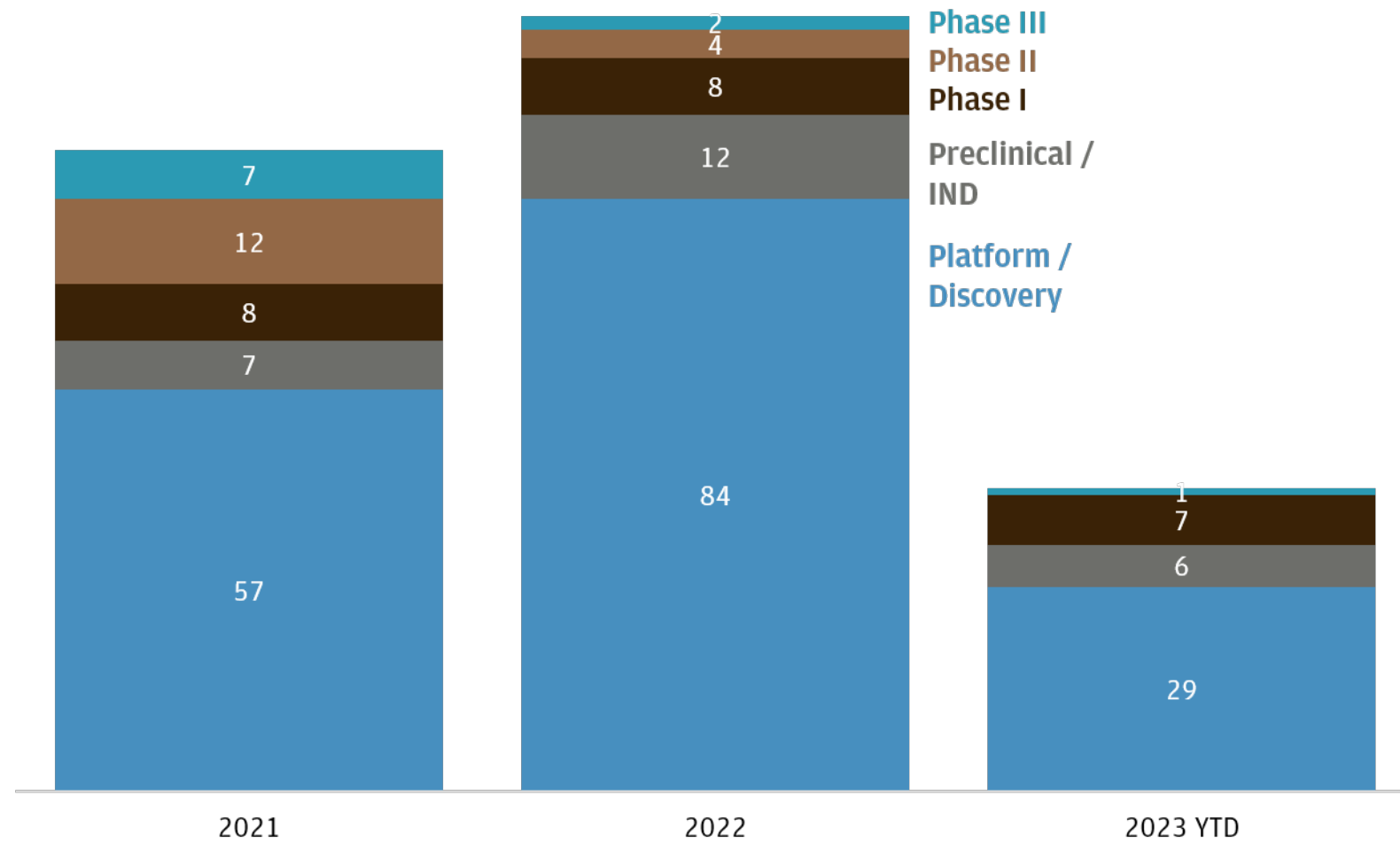
Financials based on disclosed figures. Stage of lead asset in multi-asset deals. Phase III deals are more often regional rather than worldwide, hence the smaller upfront. Data through 6/30/2023.

Big pharma continues to sign more platform and discovery-stage deals

The largest share of in-license deals into big pharma happen at platform and discovery stages. These are often the riskiest but provide the partners substantial support and control over program development. Deals signed at these earliest stages saw median upfront payments of \$42 million since 2022.

- 29 biopharma R&D licensing deals were signed year-to-date in 2023 for platforms and discovery programs in an otherwise quiet year for dealmaking. Full-year 2022 saw 84 early-stage deals with big pharma.

In-Licensing by Big Pharma: Number of Development and Commercialization Deals by Stage at Signing



Source: DealForma.com database
Financials based on disclosed figures. Data through 6/30/2023.

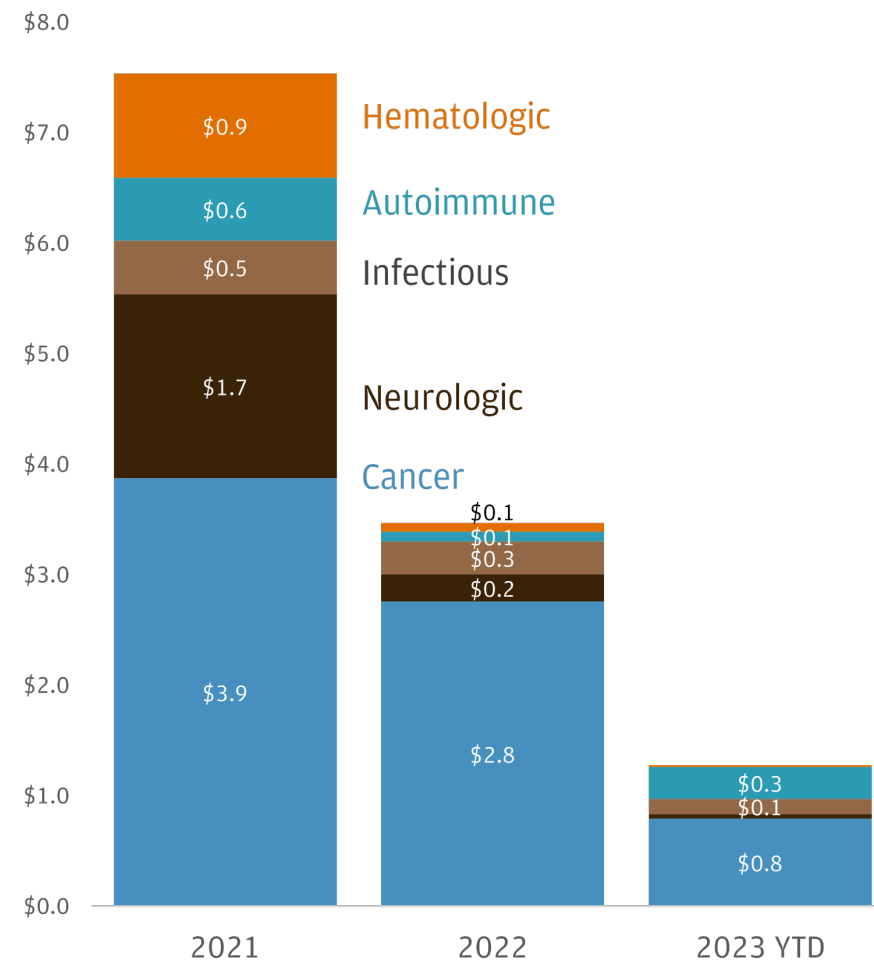
Large-cap biopharma continues to focus on oncology in-licensing

Licensing activity has been declining since the 2021 peak across all therapy areas and modalities. However, oncology and biologics continued to maintain their share of deal flow, especially into big pharma.

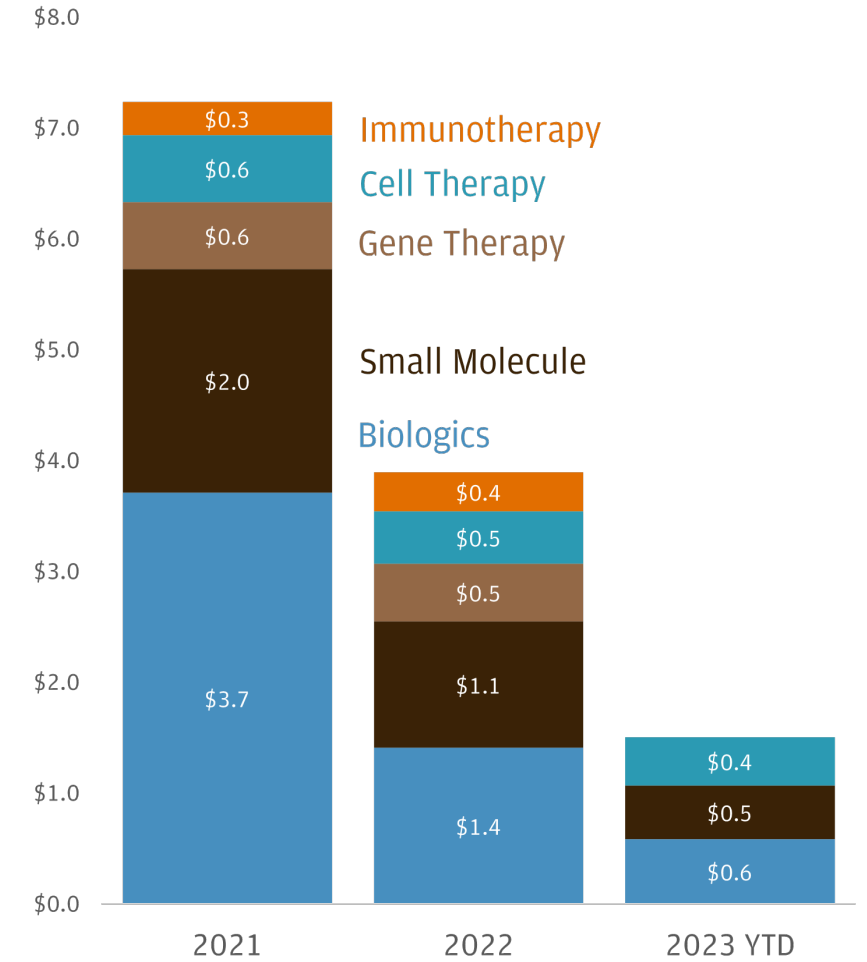
- \$800 million in upfront cash and equity for cancer program in-licensing by large-cap biopharma in the first half of 2023 and \$2.8 billion for full-year 2022.
- Cell therapy has maintained its relative share since 2021 as it saw consistent investment and licensing opportunity with big pharma.

Top Therapy Areas and Modalities In-Licensed by Large-Cap Biopharma: Total Upfront Cash & Equity (\$B)

Top 5 Therapy Areas - Upfront Totals (\$B)



Top 5 Modalities - Upfront Totals (\$B)



Source: DealForma.com database
Financials based on disclosed figures. Data through 6/30/2023.

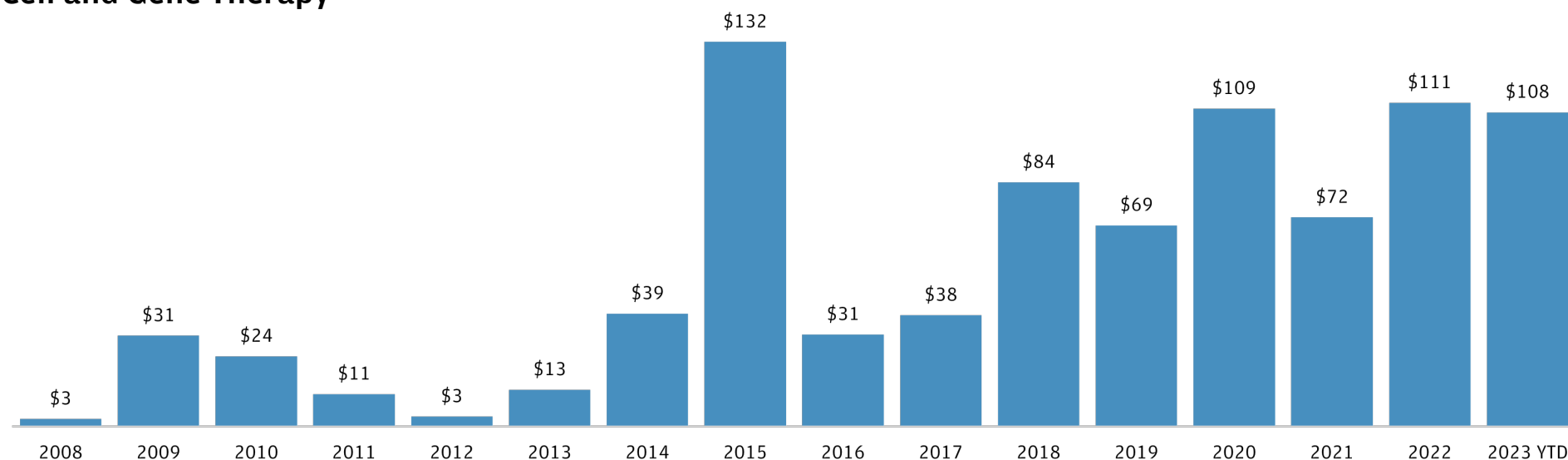
Cell and gene therapy continue to receive the largest upfront payments from licensing

Cell therapies and gene therapies continued to attract larger R&D licensing deal upfronts. This was followed by the long-standing advanced biologics modalities, such as antibodies, RNA, and DNA, plus newer approaches such as antibody-drug conjugates (ADCs).

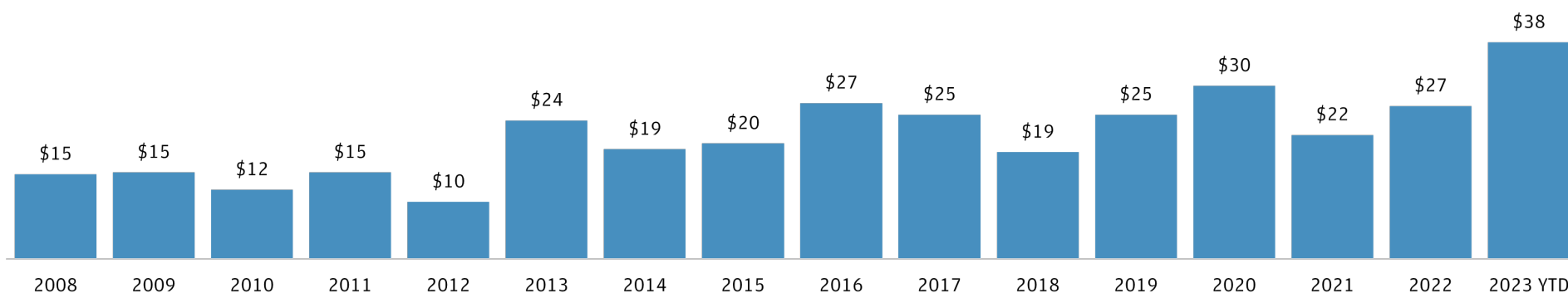
- \$108 million median upfront cash and equity for cell and gene therapy program license deals in 2023 YTD, down slightly from \$111 million in 2022 but otherwise near the top over many prior years.
- \$38 million median upfront cash and equity for established biologics deals, setting a high mark for large upfront values for biologics since 2008.

Cell and Gene Therapy and Biologics In-Licensing: Median Upfront Cash & Equity (\$M)

Cell and Gene Therapy



Biologics, mAbs, ADC, Proteins, DNA, RNA, etc.



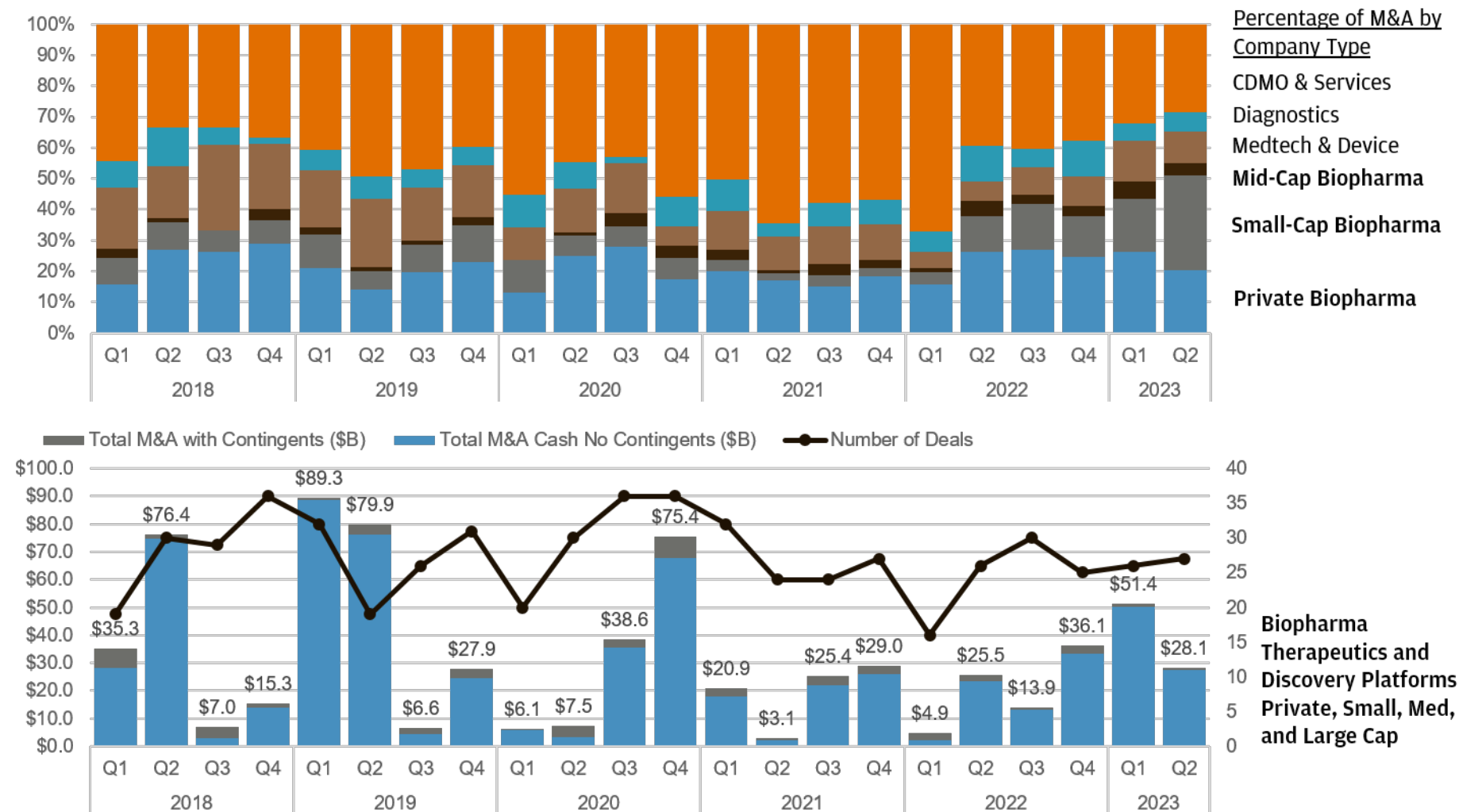
Source: DealForma.com database
Financials based on disclosed figures. Data through 6/30/2023.

Biopharma M&A deal flow increased in Q2 but with an emphasis on small-cap deals

Biopharma M&A activity tracked a higher number of deals in second quarter 2023 despite the dollar total reversing downward. The largest segment of sellers were small-cap biopharma (<\$1 billion market cap) reflecting smaller deal values for otherwise robust pipelines.

- 27 M&A transactions for biopharma therapeutics and platform companies were announced in the second quarter of 2023.
- \$28.1 billion in total M&A value for biopharma companies, though only a small number of deals contributed to that total.

Biopharma M&A Activity Compared with Other Healthcare and Life Sciences Subsectors



Source: DealForma.com database
Financials based on disclosed figures. Data through 6/30/2023.

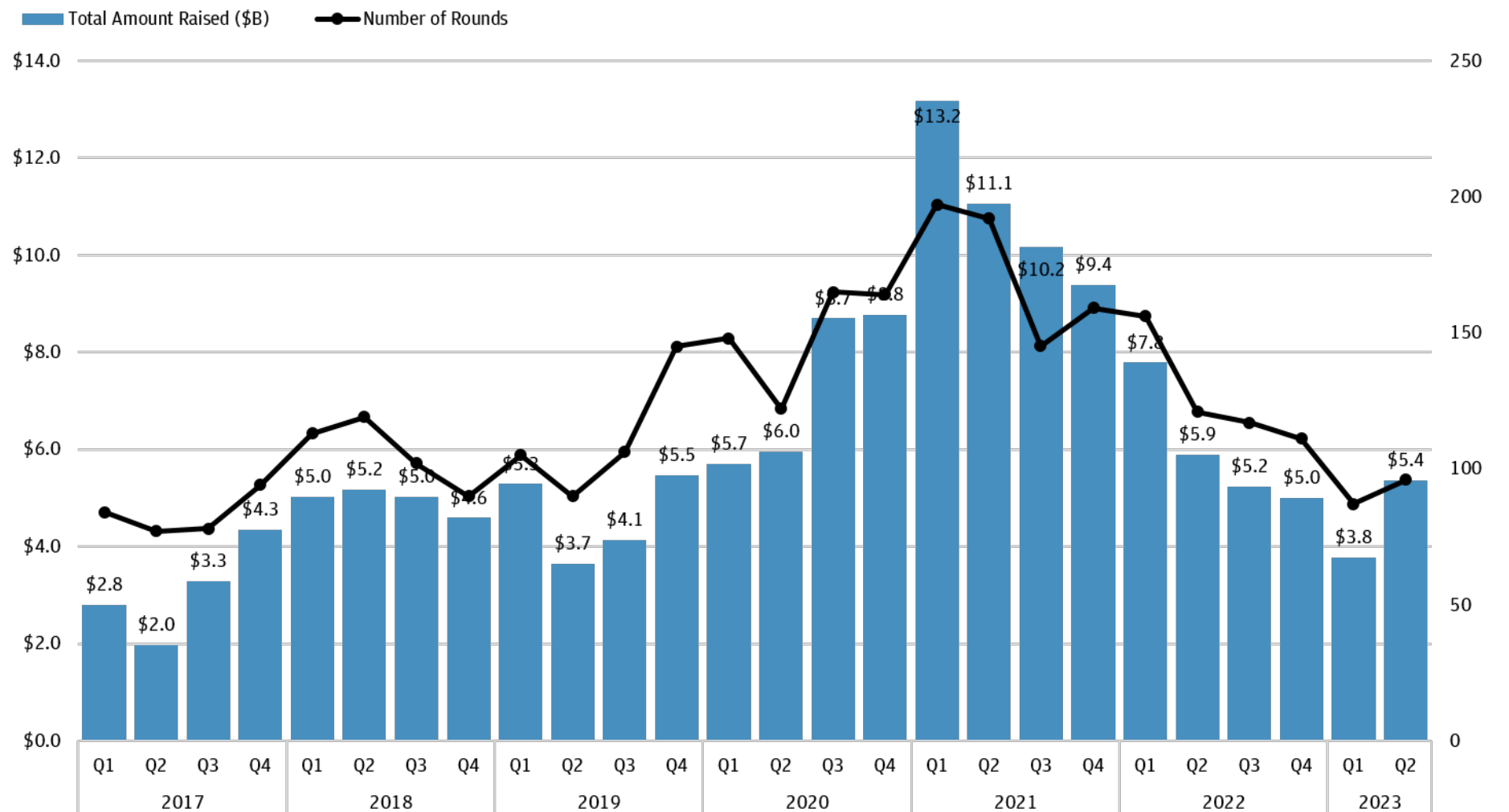
Biopharma Venture Highlights

Biopharma venture investment dollars tracked higher in Q2

Venture investment activity into biopharma turned upwards in second quarter 2023. Both the number of rounds and the total value were higher than in the previous quarter and reversed a downward trend from the peak in Q1 2021 of \$13 billion.

- \$5.4 billion was raised in private funding rounds in the second quarter of 2023 across 96 rounds, higher than the \$3.8 billion over 87 rounds seen in the first quarter.

Biopharma Therapeutics and Platforms: Venture Totals (\$B) and Number of Rounds



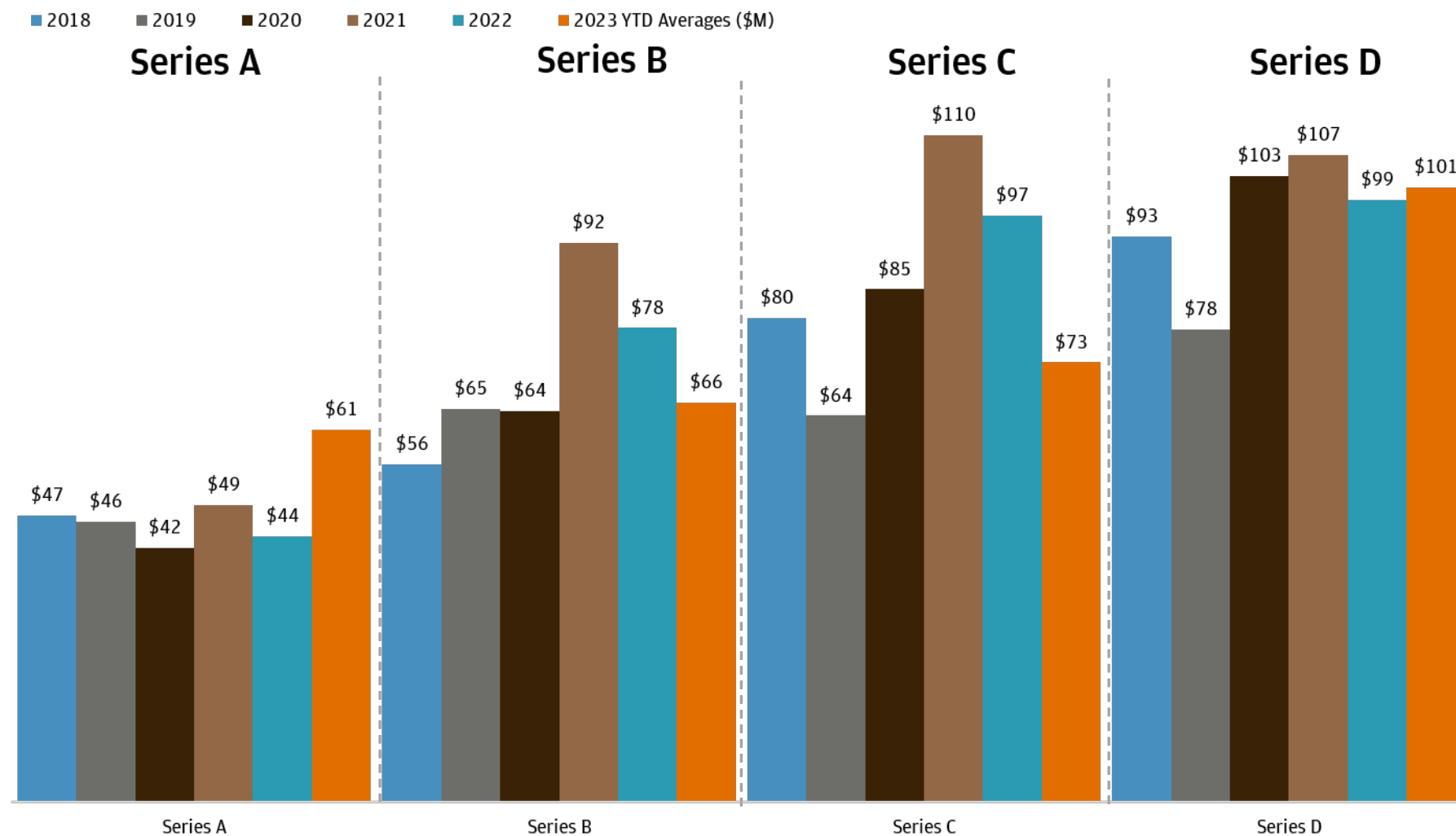
Source: DealForma.com database
Financials based on disclosed figures. Data through 6/30/2023.

Series A averages are up for biopharma despite the drops in later rounds

Biopharma Series A venture averages rose to \$61 million, the highest Series A average since 2018. Later venture rounds saw smaller averages, however, with the largest drop at Series C for 2023 year-to-date.

- The Series A average rose to \$61 million in the first half of 2023, while the Series C average dropped to \$73 million.

Biopharma Therapeutics and Platforms: Average Venture Rounds by Series



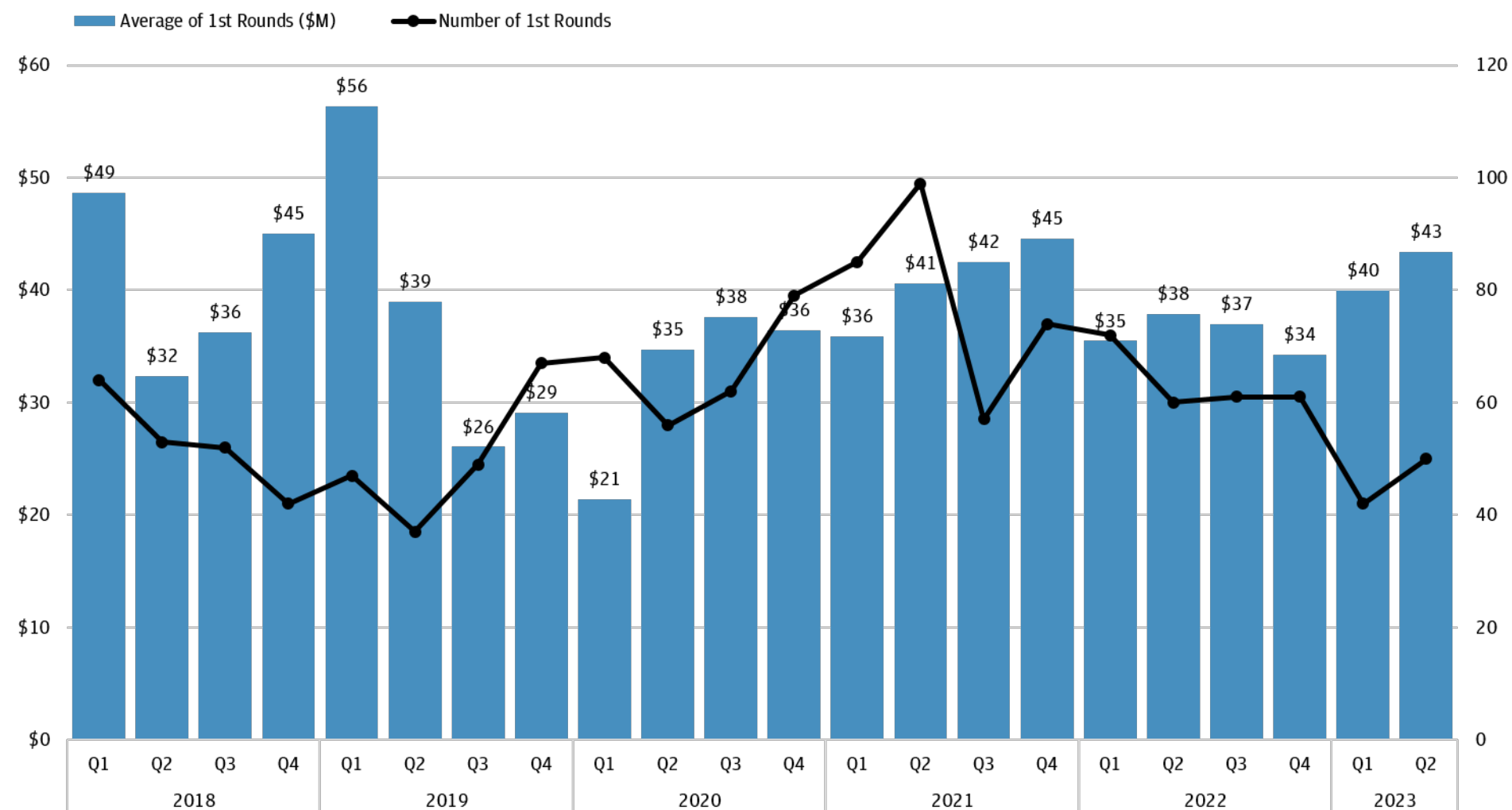
Source: DealForma.com database
Financials based on disclosed figures. Data through 6/30/2023.

Seed and Series A biopharma investments picked up slightly after a year of declines

Seed and Series A average investment rounds into early biopharma rose for the second quarter 2023 to \$43 million. Also, the number of rounds increased slightly as a good indicator that venture dollars are still flowing to newly formed biopharma companies.

- The seed and Series A round average rose to \$43 million in second quarter 2023 across 50 rounds.

First Rounds into Biopharma Therapeutics Companies: Number of Seed and Series A and Average (\$M)



Source: DealForma.com database
Financials based on disclosed figures. Data through 6/30/2023.

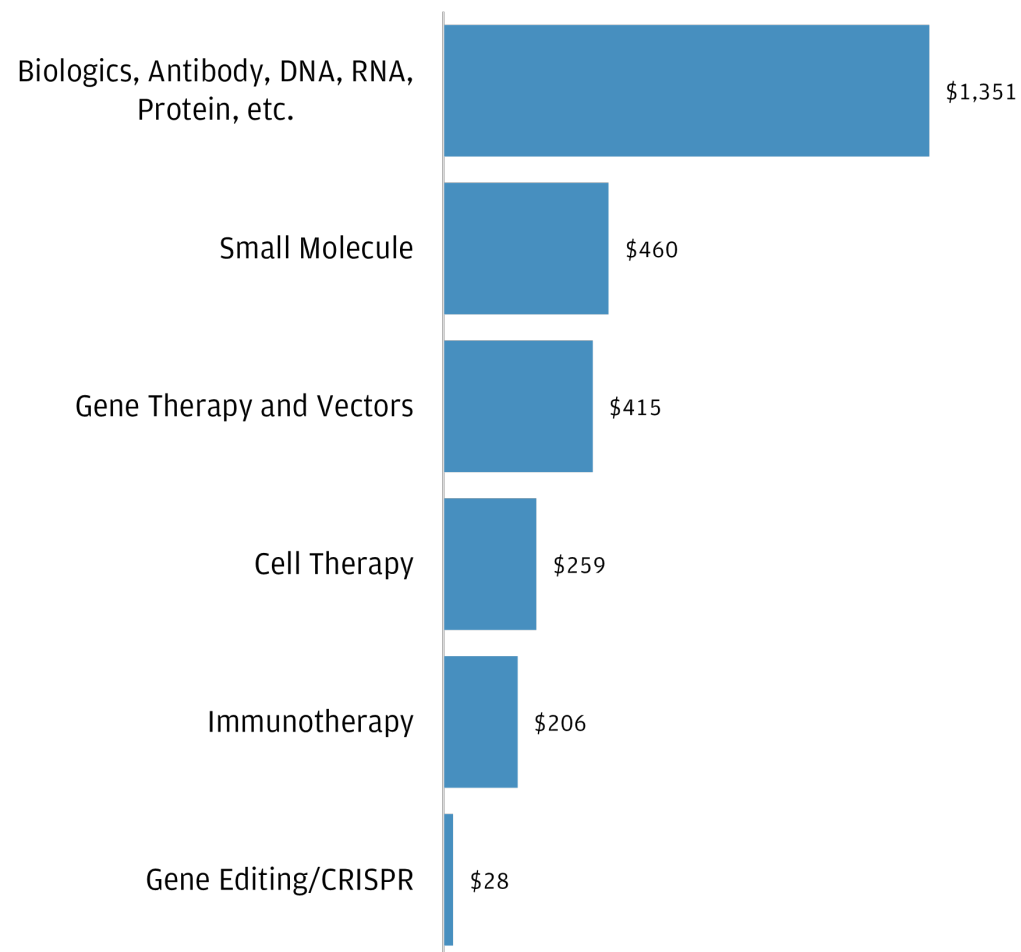
Biologics and oncology continue to attract the largest share of seed and Series A funding

As we saw in licensing partnership activity by therapy area and modality, biopharma companies developing cancer therapies attracted the largest share of all initial venture funding in the first half of 2023. Biologics and advanced molecular therapies led seed and Series A rounds among the top modalities.

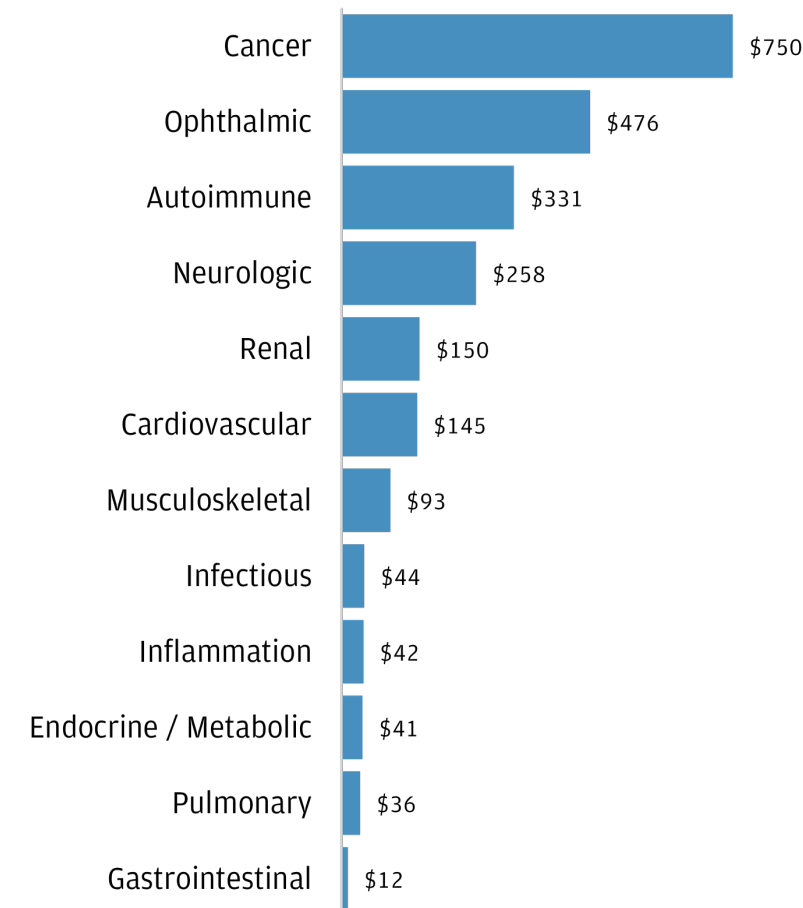
- \$750 million in seed and Series A rounds focused on cancer in the first half of 2023.
- \$2.4 billion in total seed and Series A across all therapy areas in 2023.

Top Modalities and Therapeutics Areas: Total Seed and Series A for 2023 YTD (\$M)

Top Biopharma Modalities



Top Therapeutic Areas



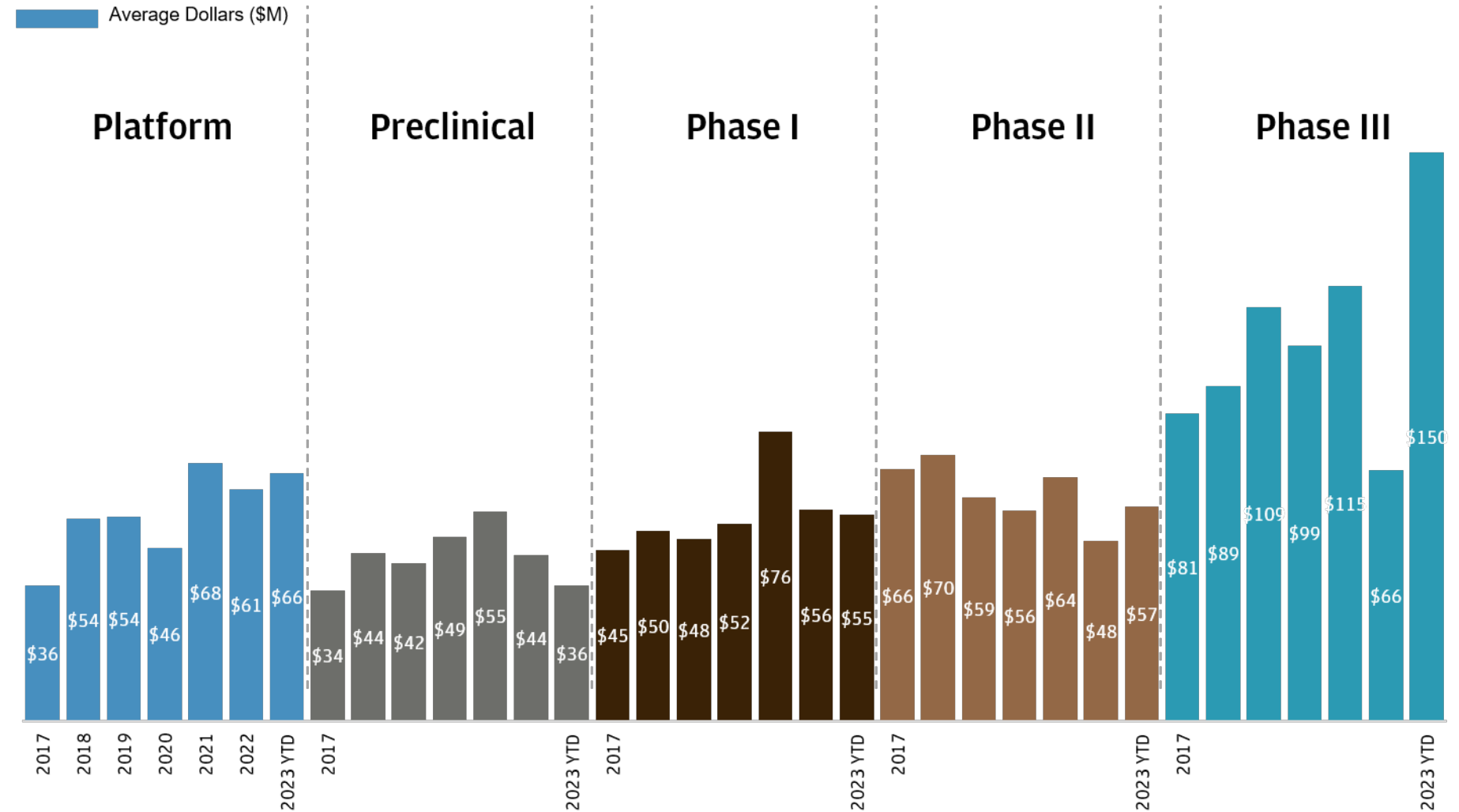
Source: DealForma.com database
Financials based on disclosed figures. Data through 6/30/2023.

Late-stage biopharma pipelines attracted higher venture round averages

Biopharma companies raising venture rounds with Phase III programs in their pipeline saw the highest average round sizes as investors focused on companies most likely to result in an IPO or M&A quickly.

- Phase III venture round averages were at \$150 million in the first quarter of 2023.
- Discovery-stage platform companies saw a slight increase in venture rounds averages to \$66 million.

Biopharma Therapeutics and Platforms: Average Venture Rounds by Company Stage



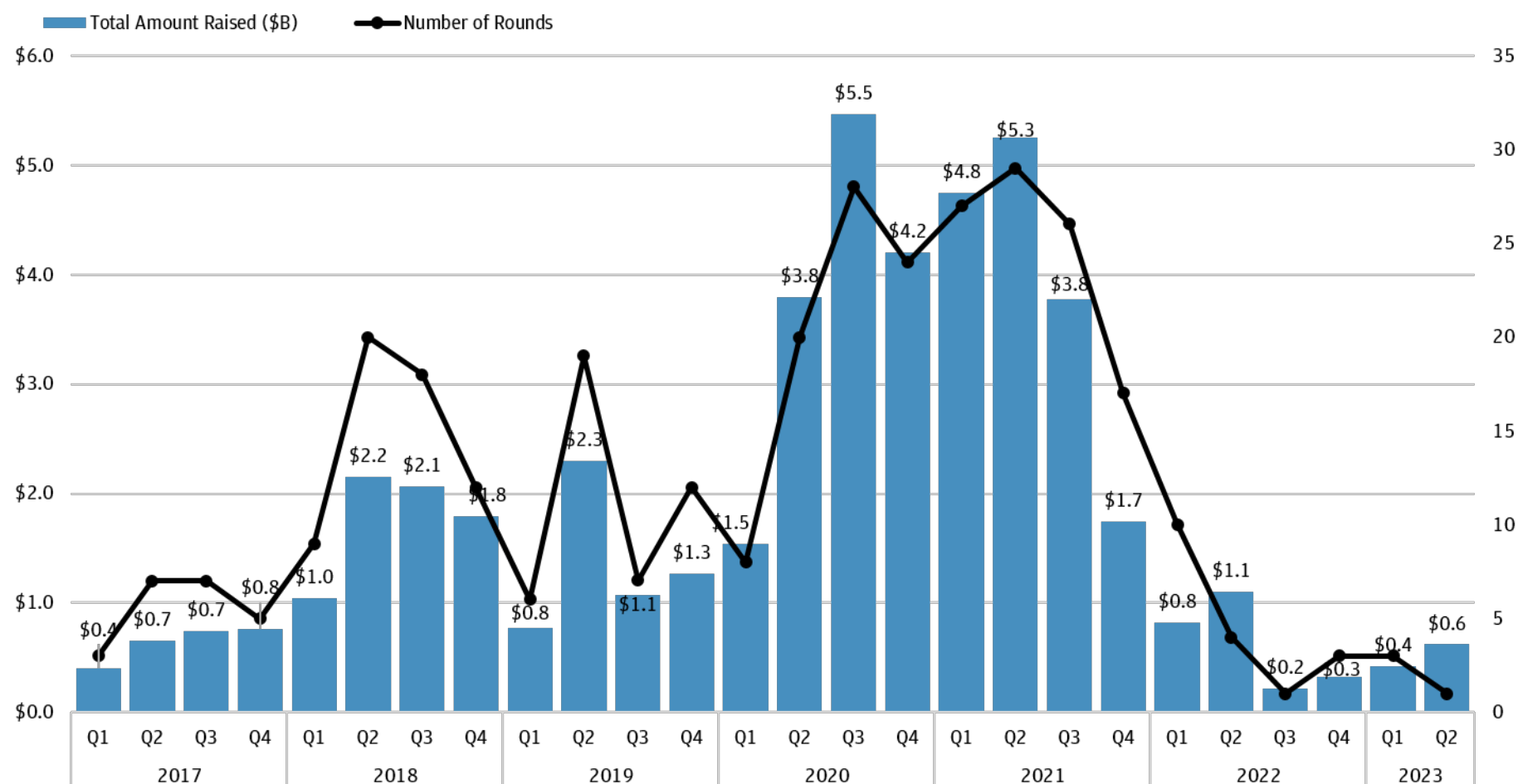
Source: DealForma.com database
Financials based on disclosed figures. Data through 6/30/2023.

Biopharma IPO completions were down, but not out, through Q2 2023

Four biopharma companies completed their IPOs on NASDAQ and NYSE in the first half of 2023 with just one in the second quarter. The total funding raised was higher in the second quarter at \$621 million. IPO activity slowed down significantly after third quarter 2021.

- \$621 million in 1 completed biopharma IPOs in the second quarter of 2023 on NASDAQ.

NASDAQ and NYSE Completed IPOs in Biopharma Therapeutics and Platforms: Totals (\$B) and Count



Source: DealForma.com database

Financials based on disclosed figures. Kenvue, Inc. (Q2 2023, \$4.4B) and other OTC focused companies excluded in this chart. IPOs by completion date. Data through 6/30/2023.

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