

J.P.Morgan

# Q1 2023 Biopharma Licensing and Venture Deals

April 2023

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# Executive summary

## Biopharma is powering through challenges

Biopharma therapeutics and discovery platform companies continued to face a tighter fundraising environment through the first quarter of 2023. Venture and IPO activity have remained low, especially for the earliest-stage companies. The number of in-license deals tracked higher and at earlier stages as well.

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

- **Biopharma licensing partnerships:** \$2.0 billion up front and \$34 billion in total announced deal value across 144 deals signed in the first quarter of 2023. The number of deals was up slightly from 136 last quarter, but dollar totals were otherwise steady apart from large deals in Q4 2022.
- **Venture investment into therapeutics:** \$3.6 billion across 86 venture rounds in the first quarter of 2023, which are the same numbers from Q2 2019. Declines were seen in all stages and series, though clinical-stage (Phase I through Phase III) fared better on average round sizes.

- **IPO and M&A:** Biopharma IPO completions have been down for five quarters closing Q1 at \$400 million in three IPOs. M&A picked up, starting with January deal announcements and sizable deals to follow to finish the quarter at \$51 billion in 27 M&A deals within biopharma.

J.P. Morgan is ready to serve the needs of companies across the healthcare and life sciences sectors, at every stage of growth. Our relationship bankers have decades of experience helping entrepreneurs raise funds, thrive and succeed, even in uncertain times.

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

Kathryn McDonough  
Co-Head of Healthcare, 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.

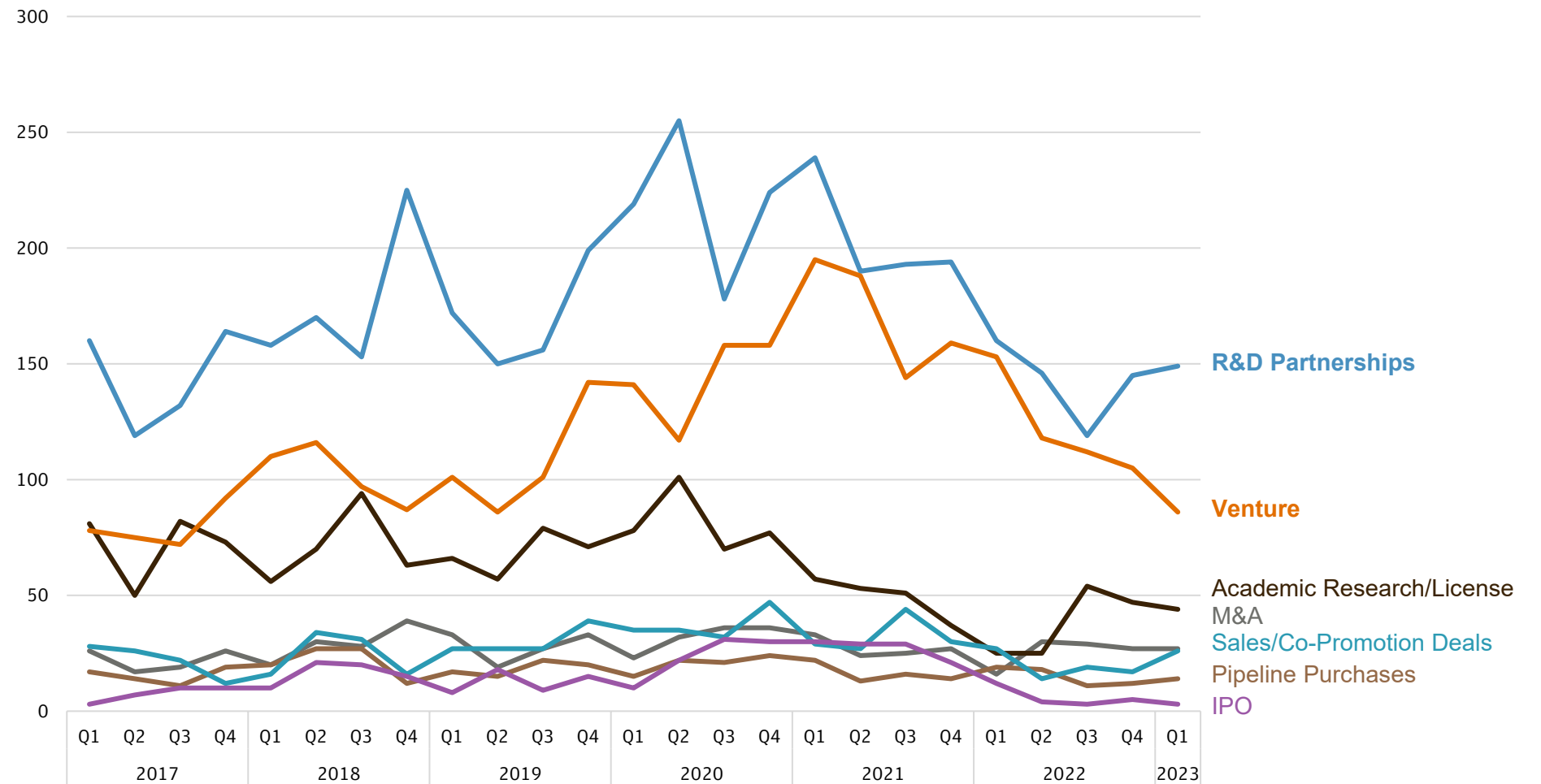
Data as of 4/6/2023.

# Biopharma dealmaking in perspective

Biopharma R&D licensing partnership activity picked up slightly in the first quarter of 2023 while venture continued to decline.

- 349 total transactions across venture rounds and IPOs, licensing deals and M&A in the first quarter.
- 149 biopharma R&D licensing partnerships signed, increasing since Q3 2022.
- 86 venture rounds completed for drug and platform developers, the lowest number of rounds since Q2 2019.

## Biopharma Therapeutics and Discovery Platform Deal Flow: Total Number of Deals



Source: DealForma.com database  
Financials based on disclosed figures. Data through 4/6/2023.

# Biopharma licensing and M&A

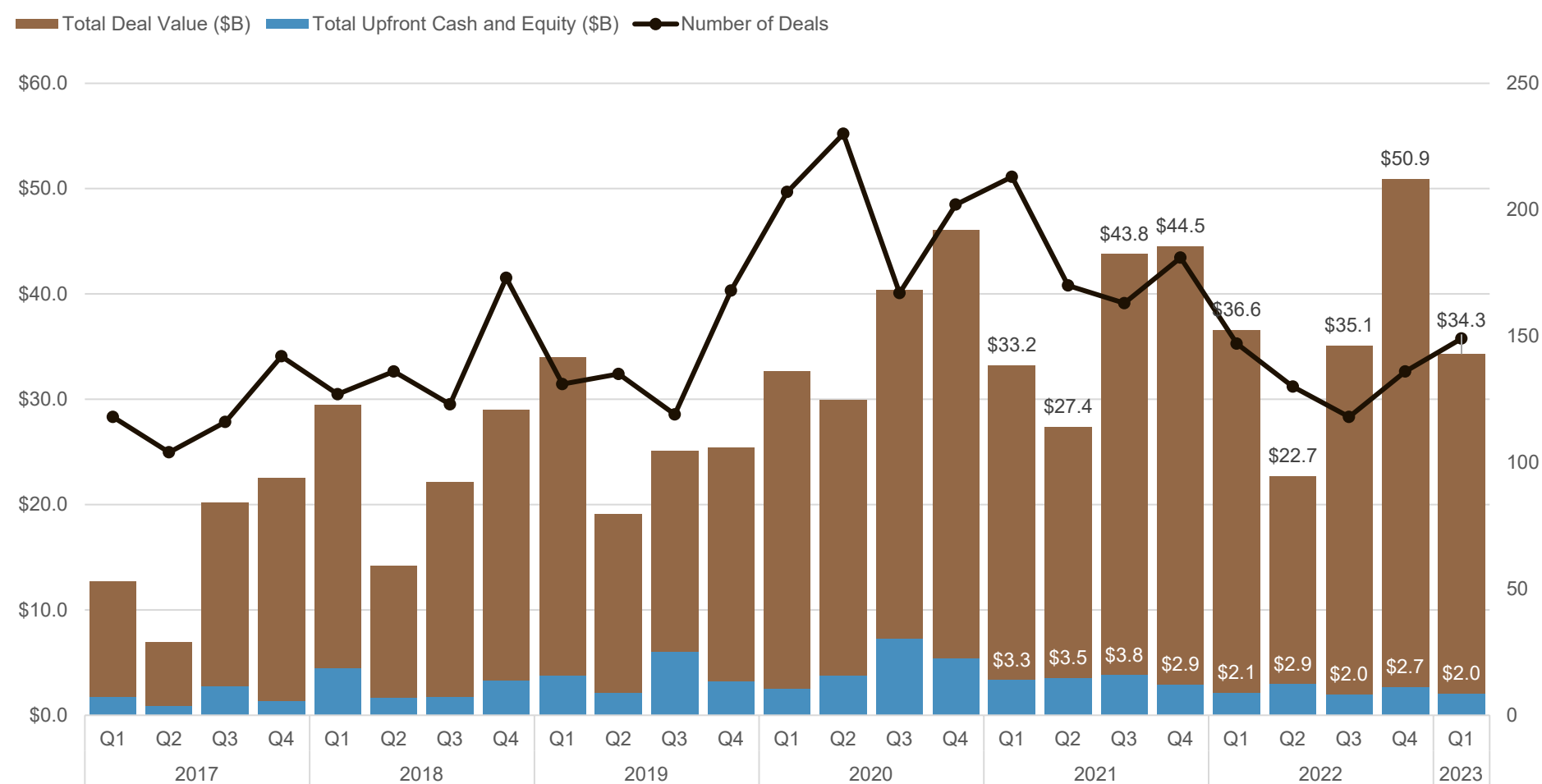
# Biopharma licensing activity tracked higher, though upfront payment terms remained low

Quarterly biopharma R&D licensing partnership activity saw a higher deal count in the first quarter. However, smaller deal values kept the total upfront cash and equity terms and total announced deal values low.

- 149 Biopharma R&D licensing partnerships were signed in first quarter of 2023, up from 136 in Q4.
- \$2.0 billion in total upfront cash and equity for licensing therapeutics and discovery platforms, down from \$2.7 billion in Q4 2022.
- \$34.3 billion in total announced deal values as milestones continued to make up the value difference and mitigate risk in early programs.

Source: DealForma.com database  
Financials based on disclosed figures. Data through 4/6/2023.

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

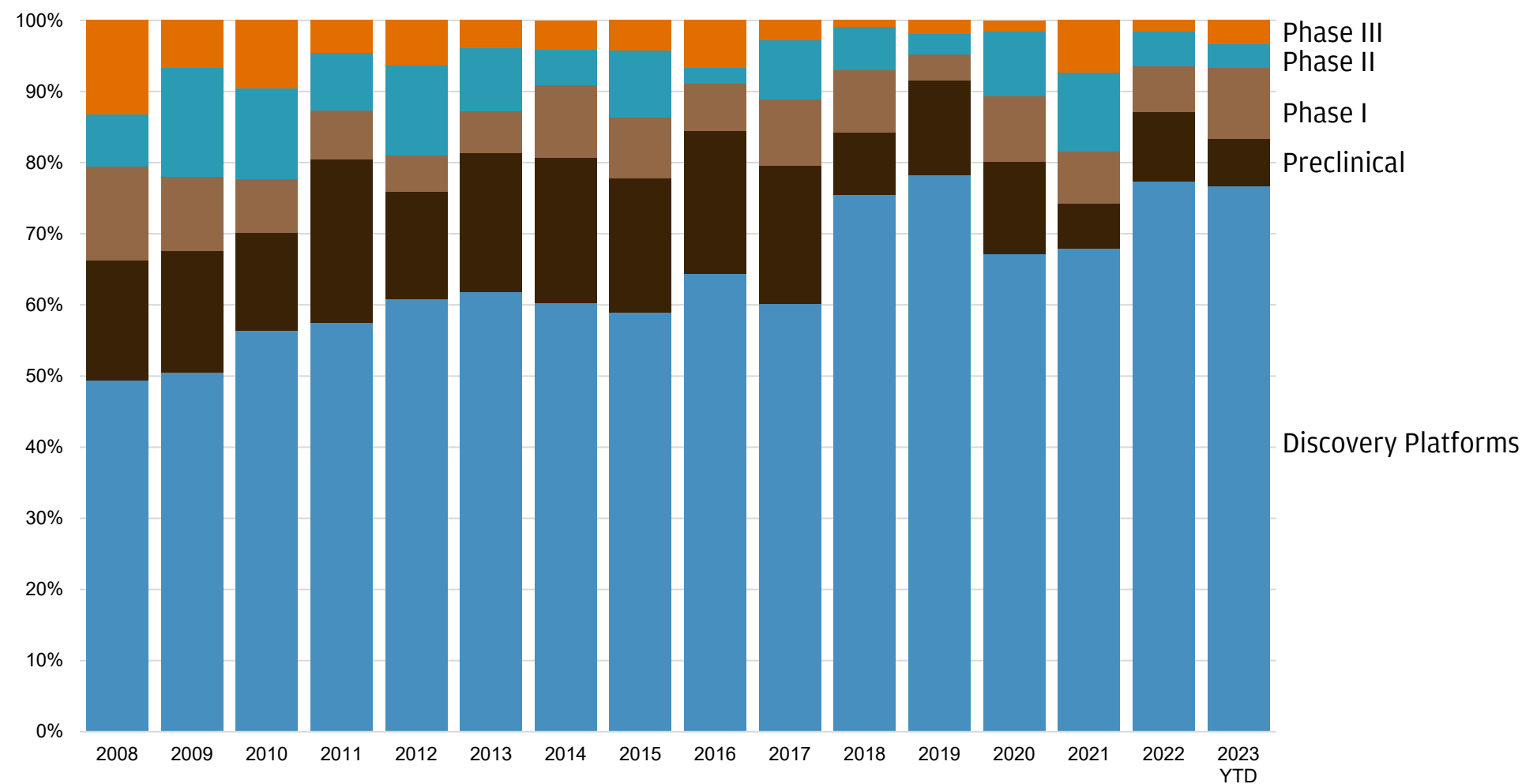


# Big pharma is starting to favor later-stage programs for in-licensing

Large-cap biopharma (\$50 billion+) started to sign more Phase I programs as a signal to favor more mature assets. Despite this, discovery platform deals still make 76% of deals signed by big pharma through the first quarter of 2023.

- Large-cap biopharma in-licensed 30 deals in Phase III and earlier stages year-to-date.
- Over 76% of first quarter 2023 in-licensing partnerships signed into large-cap biopharma were for discovery platforms.

### In-Licensing by Large-Cap Biopharma (\$50B+): Share of R&D Partnerships by Stage at Signing



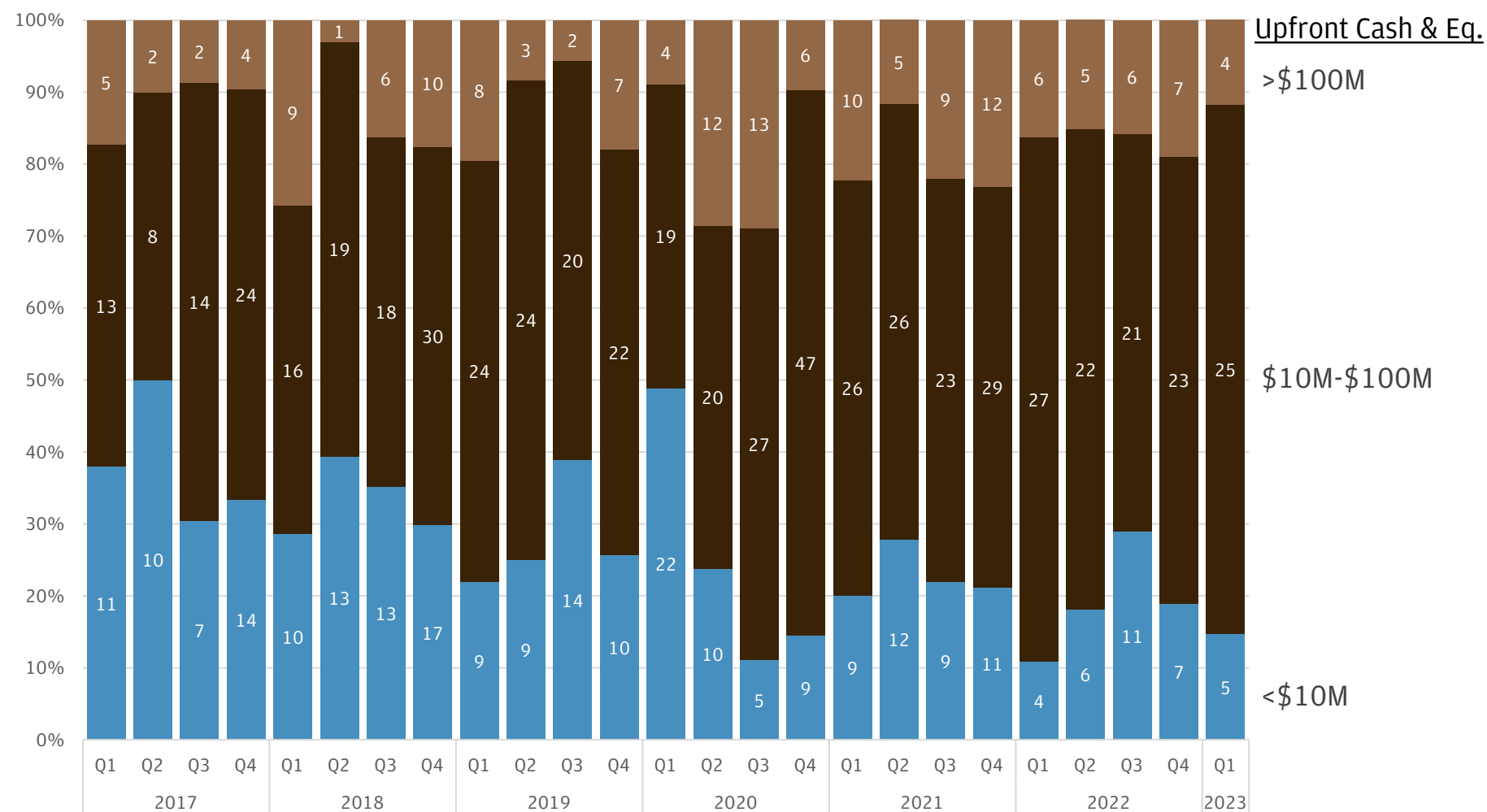
Source: DealForma.com database  
Financials based on disclosed figures. Data through 4/6/2023.

# Biopharma out-licensors are receiving larger upfront cash and equity investments in deals

It is common to see biopharma R&D licensing partnerships bring in sizable upfront payment terms to the out-licensor. The share of large upfront deals has grown over the recent quarters. The upper range of \$100 million-plus deals is still thin, however, leaving room for headline-grabbing deals.

- 25 biopharma R&D licensing deals with \$10 million to \$100 million in upfront cash and equity in the first quarter of 2023, higher than recent quarters.
- Four deals had over \$100 million in upfront cash and equity in the first quarter of 2023.

## High-Dollar In-Licensing: Share of Deals by Range of Upfront Cash & Equity for Biopharma Therapeutics



Source: DealForma.com database  
Financials based on disclosed figures. Data through 4/6/2023.

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

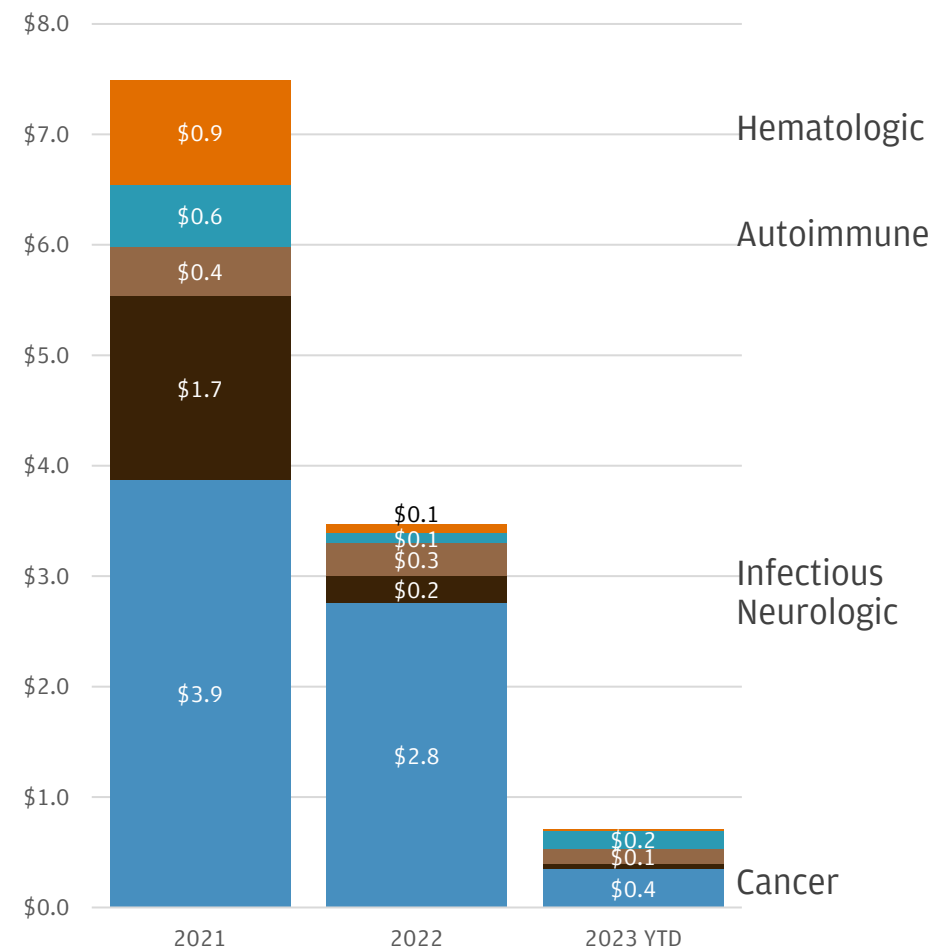
Despite the annual declines in the number of deals, large-cap biopharma's deal activity among various therapy areas and treatment modalities continued to focus on oncology. The decline was mostly in neurology to \$200 million in upfront cash and equity in 2022 and even smaller in 2023 year-to-date.

- \$2.8 billion in upfront cash and equity for cancer program in-licensing by large-cap biopharma for full-year 2022, and 2023 saw \$400 million in upfront payments year-to-date.
- Neurology dealmaking declined from \$1.7 billion in 2021 to nearly zero in 2023 year-to-date.
- Cell therapy, immunotherapy and gene therapy continued to attract steady licensing dollars, while small molecules and other biologics saw smaller deal terms.

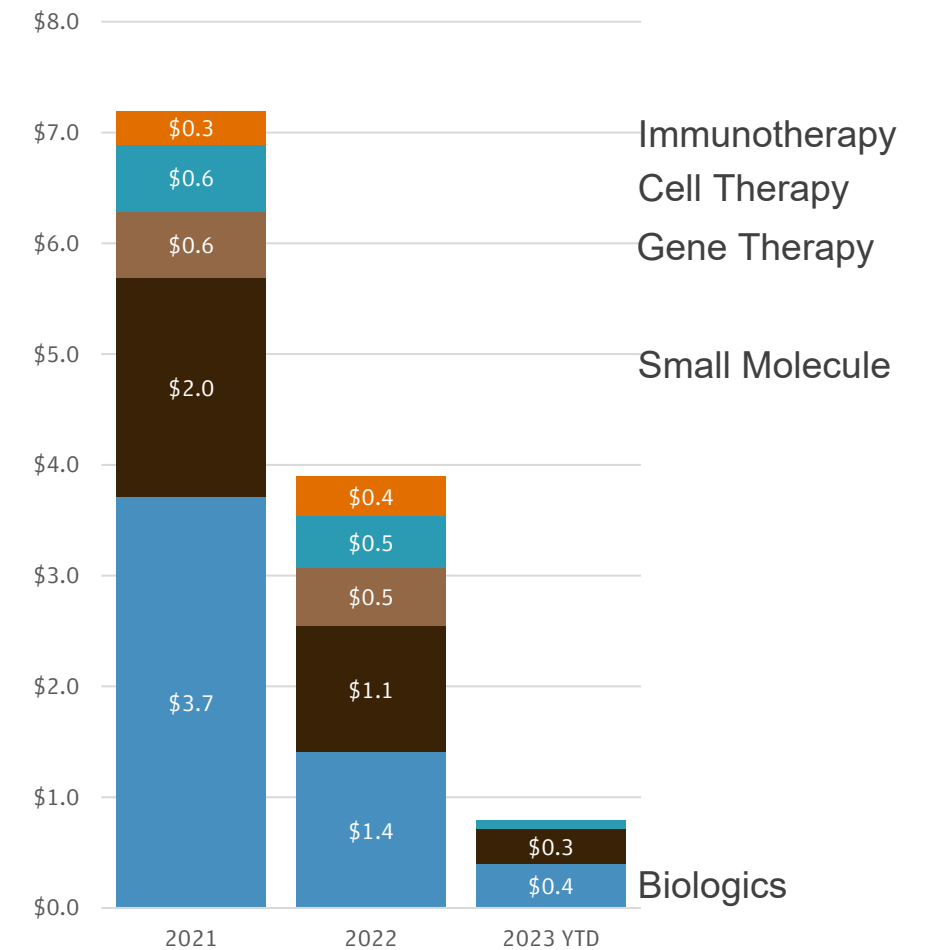
Source: DealForma.com database  
Financials based on disclosed figures. Data through 4/6/2023.

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

### Top 5 Therapy Areas - Upfront Terms



### Top 5 Modalities - Upfront Terms





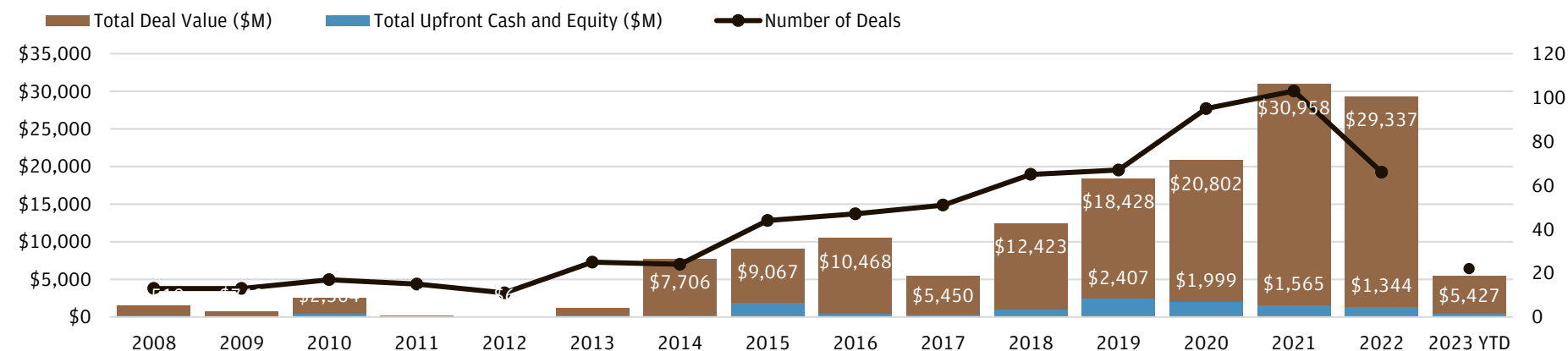
# Cell and gene therapy and AI drug discovery saw the most in-licensing activity in 2022

Advanced modalities such as cell therapy and gene therapy continued to attract R&D licensing deal upfronts, while newer entrants in AI-driven drug discovery also saw higher deal activity.

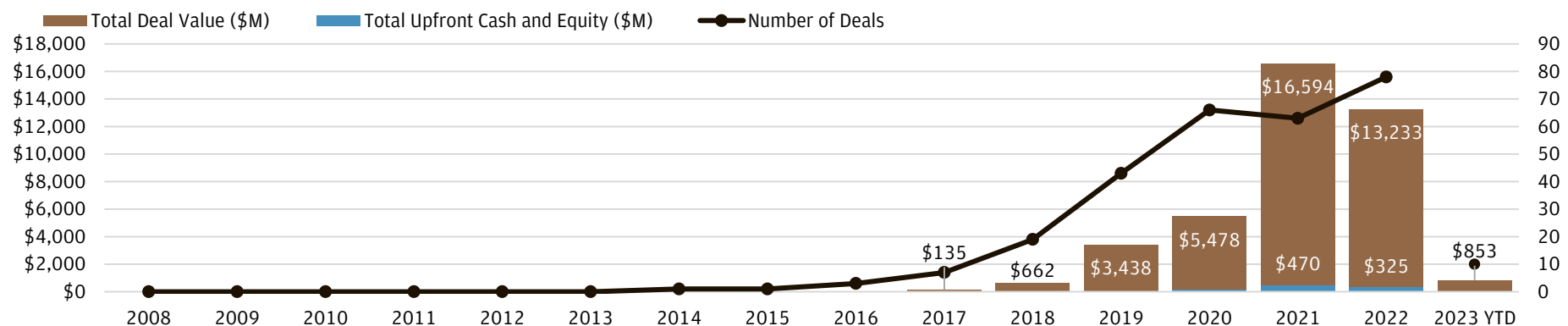
- \$328 million total upfront cash and equity across 22 deals in 2023 YTD for cell therapy and gene therapy in-licensing.
- AI-driven drug discovery set its own record at 78 deals in full-year 2022, with \$13 billion in total announced deal values and \$325 million in upfront cash and equity.

## Top Technology In-Licensing Activity: Cell and Gene Therapy and AI Drug Discovery

### Cell and Gene Therapy



### AI/ML Drug Discovery



Source: DealForma.com database  
Financials based on disclosed figures. Data through 4/6/2023.

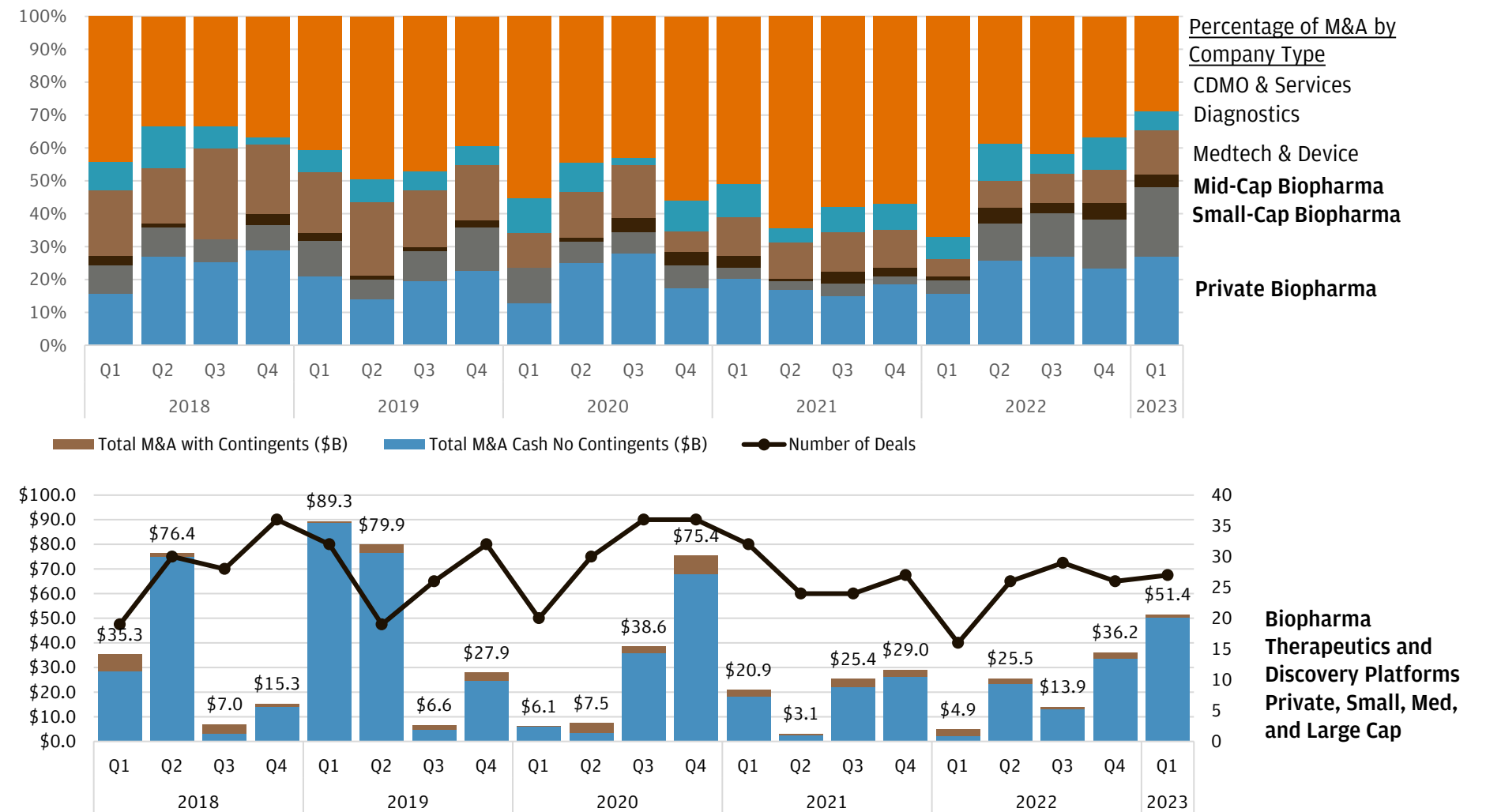
# Quarterly biopharma M&A picked up since Q1 of last year

Biopharma merger and acquisition activity returned with a very busy first quarter building on what started mid-2022. Buyers favored late-stage companies, some with drugs on the market for near-term pipeline additions.

- 27 M&A transactions for biopharma therapeutics and platform companies were announced in the first quarter of 2023.
- \$51.4 billion in total M&A value for biopharma companies, with a few large deals to beat the last eight quarters.
- Biopharma M&A transactions made up 50% of all healthcare and life sciences M&A, including medtech, diagnostics and CDMO acquisitions.

Source: DealForma.com database  
Financials based on disclosed figures. Data through 4/6/2023.

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



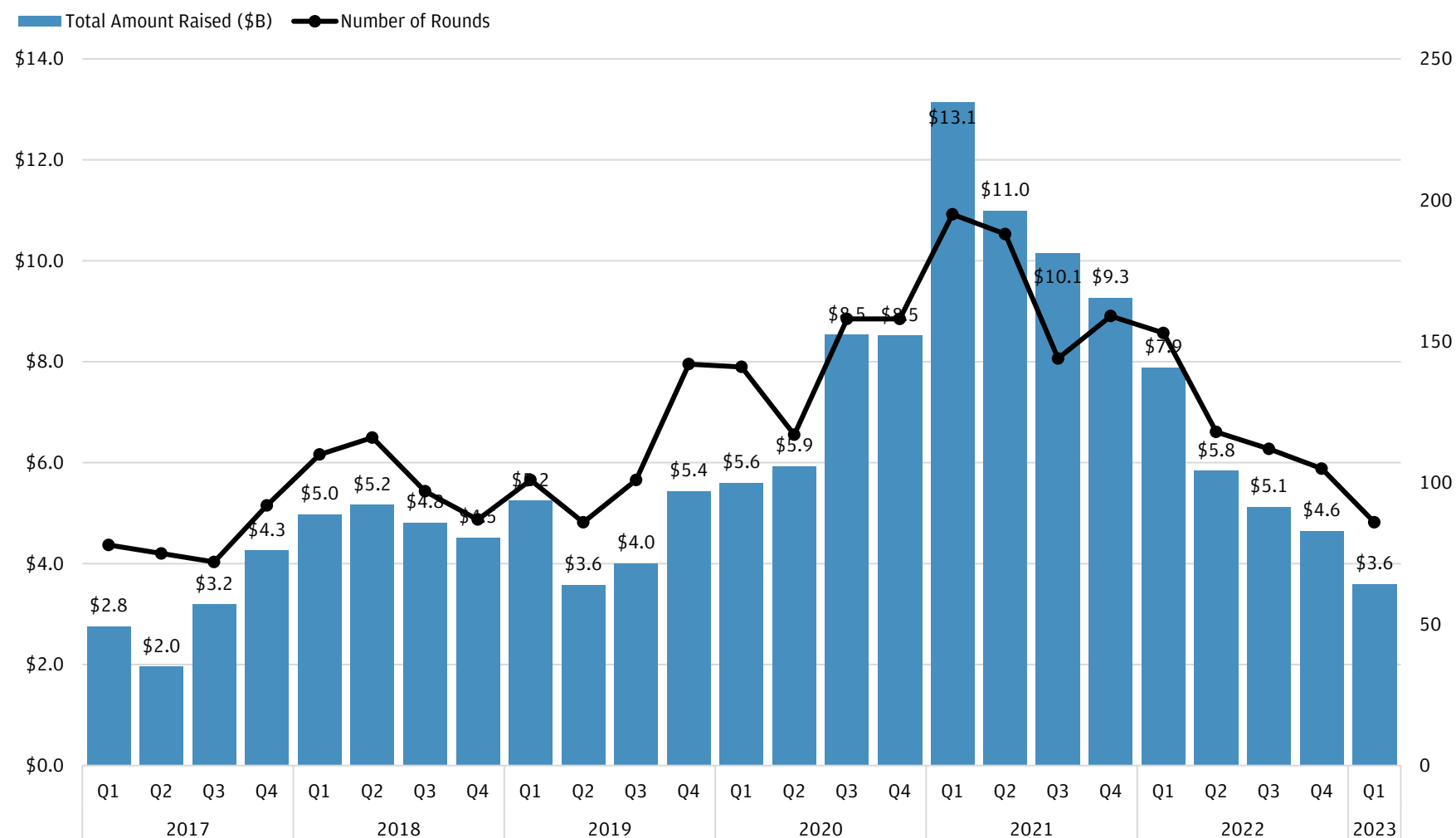
# Biopharma venture highlights

# Biopharma venture activity is back to Q3 2019 levels; down from the Q1 2021 peak

Quarter-over-quarter venture investment activity in biopharma continued to track lower coming off the Q1 2021 records for the number of rounds and total dollars invested.

- \$3.6 billion was raised in private funding rounds in the first quarter of 2023.
- Fewer rounds were raised this quarter at 86, down from 105 in Q4 2022 and prior quarters.

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



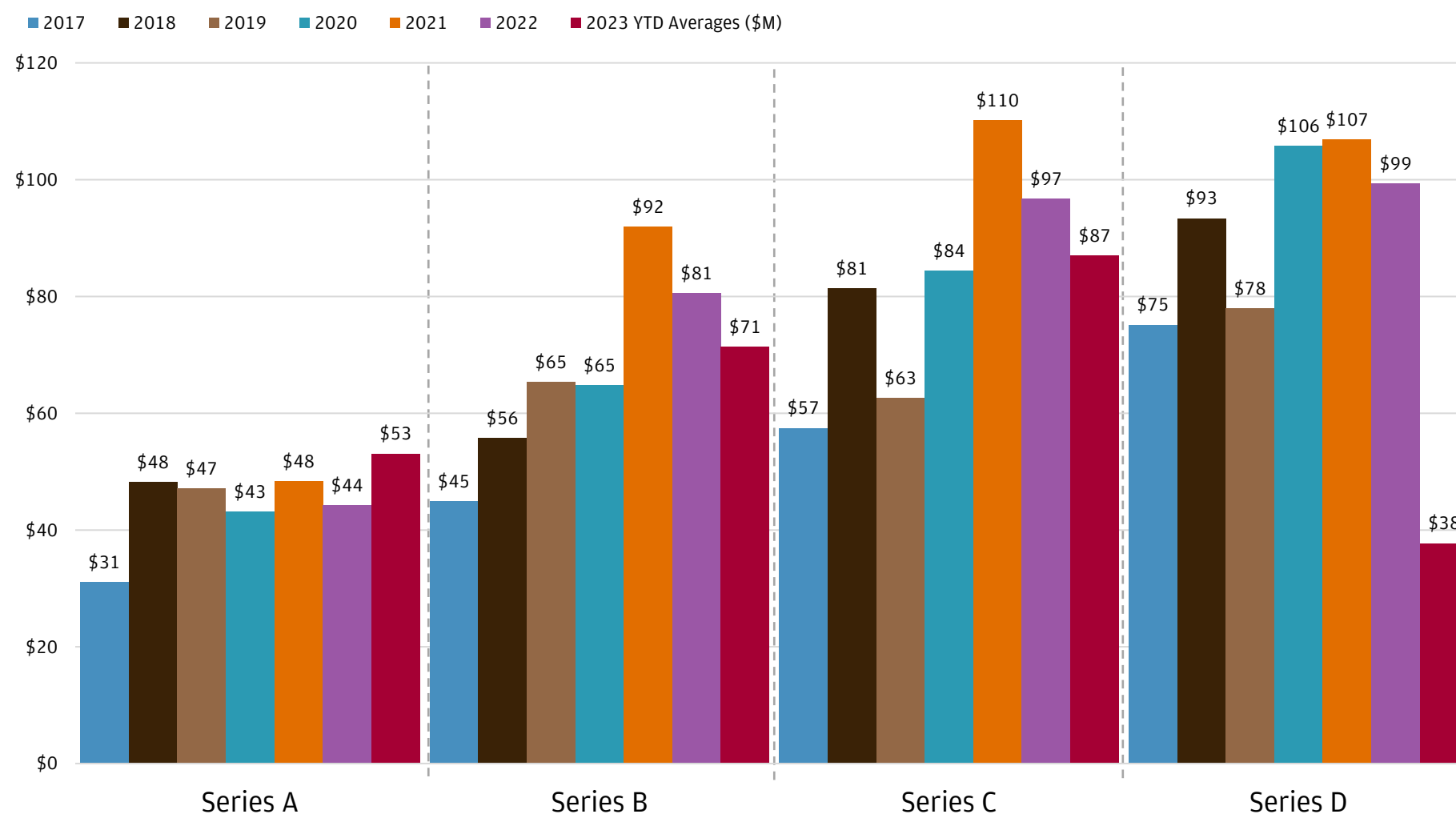
Source: DealForma.com database  
Financials based on disclosed figures. Data through 4/6/2023.

# Average biopharma venture round sizes declined for Series B and later

Biopharma venture averages were smaller for later series rounds through 2023 year-to-date. This decline was the most in Series D rounds but was also seen in Series B and C since the peak in 2021.

- The Series B average decreased to \$71 million in the first quarter of 2023, while the Series C average dropped to \$87 million.
- Series A round averages into biopharma were the highest since 2017 at \$53 million per round.

## Biopharma Therapeutics and Platforms: Average Venture Rounds by Series



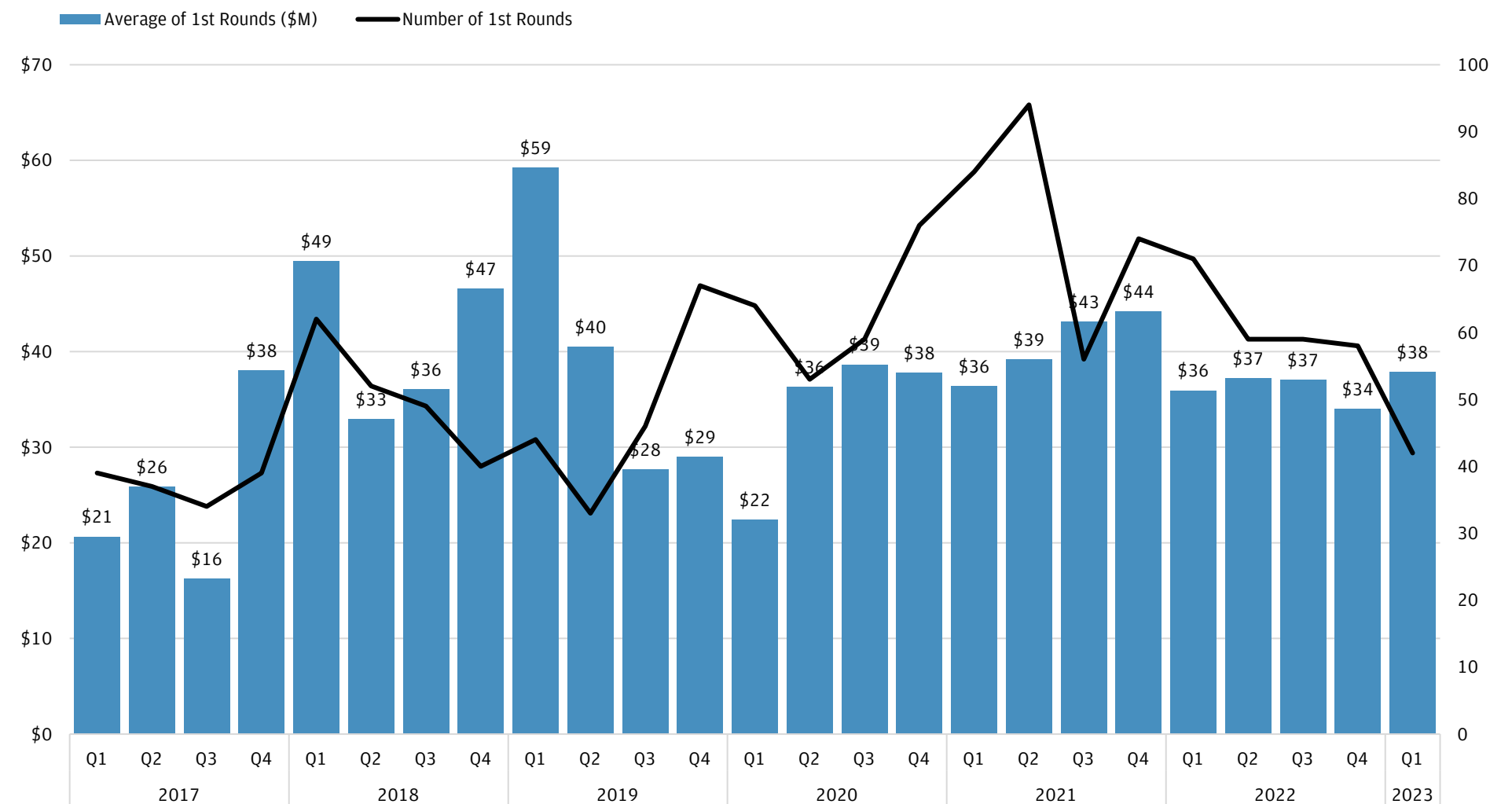
Source: DealForma.com database  
Financials based on disclosed figures. Data through 4/6/2023.

# Seed and Series A biopharma investments fell to 2019 levels while averages held steady

First-round biopharma venture averages held steady for seed and Series A rounds despite the number of rounds dropping to 2019 levels.

- The Series A average alone was the highest since 2017, coming in at \$53 million. With seed rounds, this was still higher than the last five quarters at \$38 million.

## First-Round Averages for Biopharma Therapeutics Companies: Seed and Series A



Source: DealForma.com database  
Financials based on disclosed figures. Data through 4/6/2023.

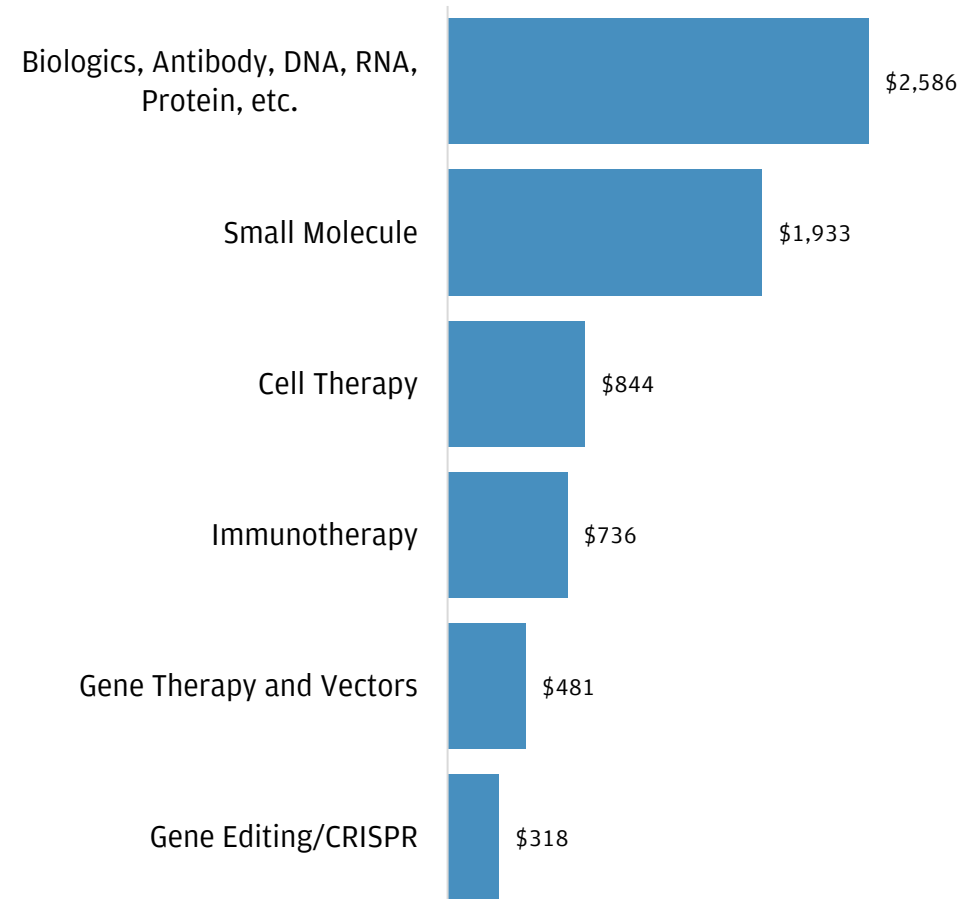
# Seed and Series A rounds into oncology biopharma exceeded all other therapies combined

Biopharma companies developing cancer therapies attracted half of all initial venture funding since 2020 along with established biologics and small molecule drugs leading newer modalities.

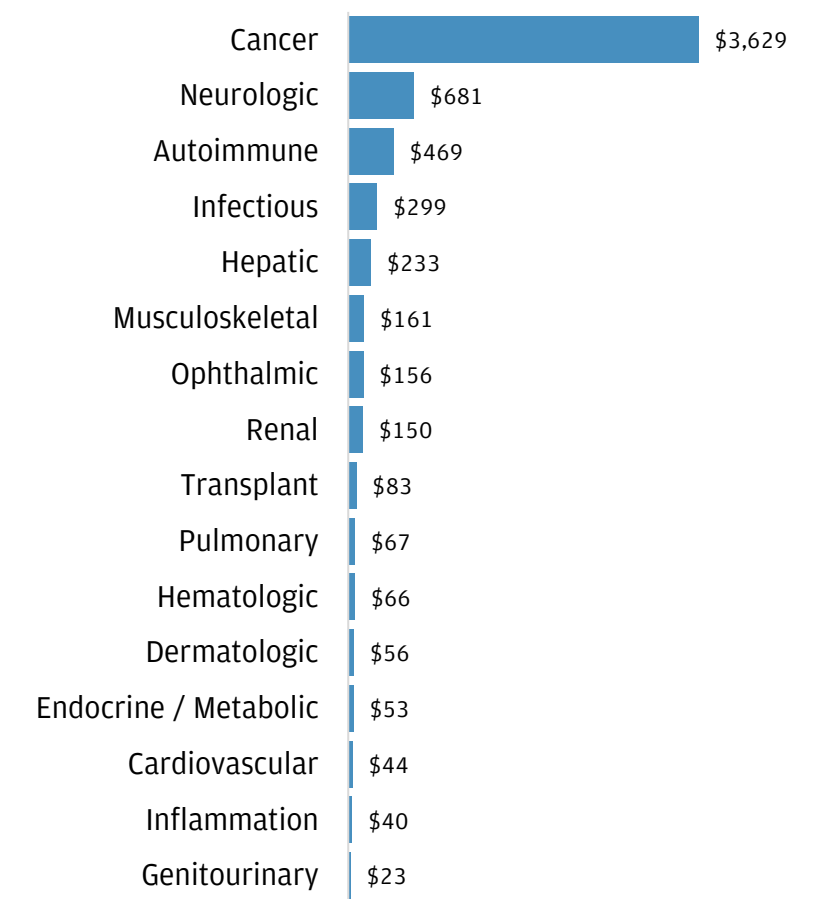
- \$3.6 billion in seed and Series A rounds focused on cancer from 2022 to the first quarter of 2023.
- \$6.2 billion in total seed and Series A across all therapy areas (2022 and 2023 YTD total).
- Biologics and small molecule drug developers saw \$13.1 billion, and \$7.1 billion was invested across cell therapy, immunotherapy, gene therapy and gene editing/CRISPR, in addition to other technologies.

## Top Modalities and Therapeutics Areas: Total Seed and Series A for 2022-2023 YTD (\$M)

### Top Modalities



### Top Therapeutic Areas



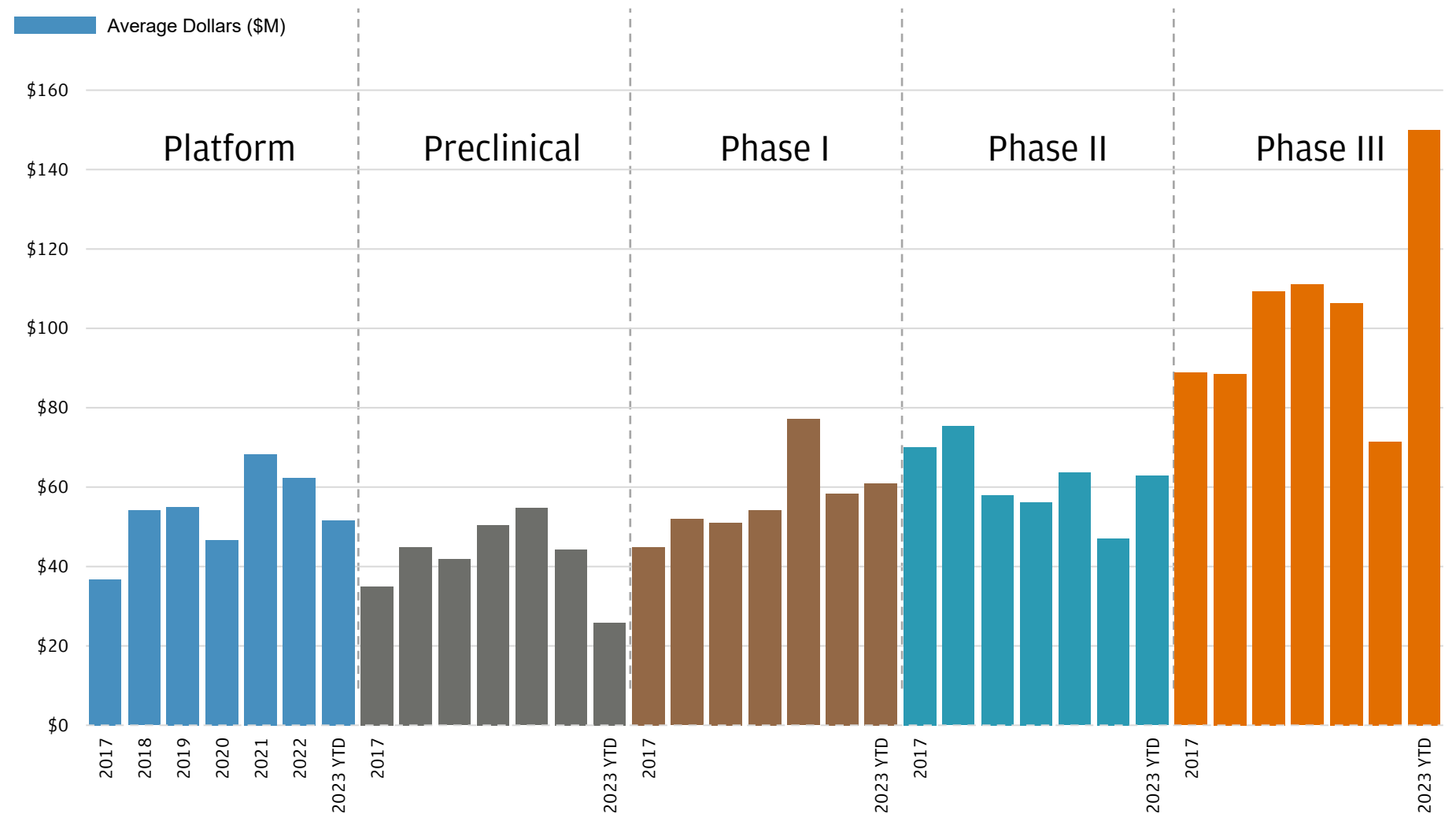
Source: DealForma.com database  
Financials based on disclosed figures. Data through 4/6/2023.

# Clinical-stage biopharma venture round averages increased

Phase I to Phase III biopharma companies saw larger venture averages when looking at a company's most advanced stage at time of funding.

- Phase III venture round averages were at \$150 million in the first quarter of 2023. Phase I and Phase II companies saw increases as well.
- Discovery platforms and preclinical biopharma companies saw declines in average round sizes to \$52 million and \$26 million, respectively.

## Biopharma Therapeutics and Platforms: Average Venture Rounds by Company Stage



Source: DealForma.com database  
Financials based on disclosed figures. Data through 4/6/2023.



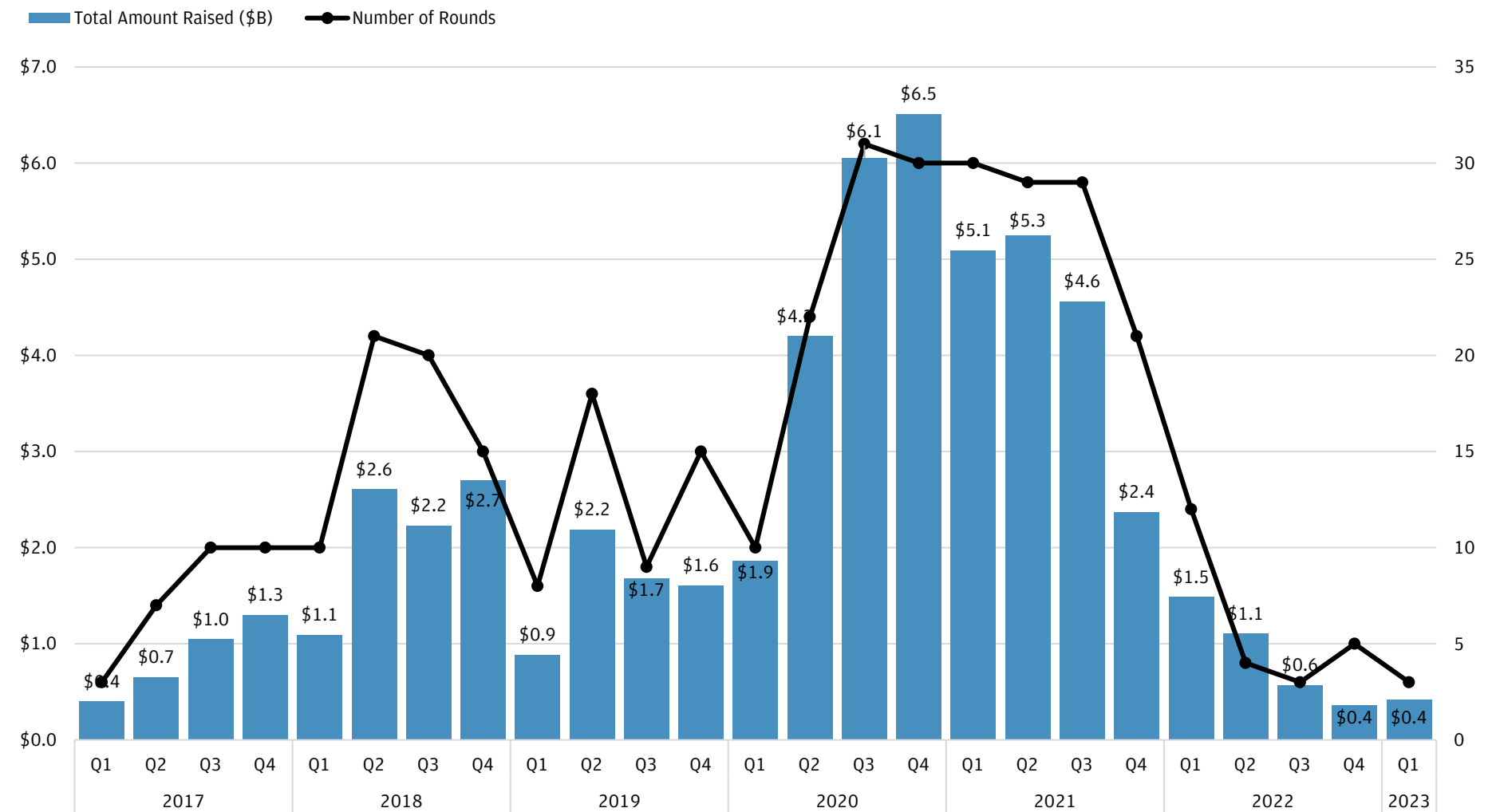
# Biopharma IPO completions have stayed down since Q4 2021

Biopharma company IPO activity dropped significantly after Q3 2021. This continued to stay low though the first quarter of 2023 with smaller and fewer IPOs.

- \$400 million in three completed biopharma IPOs in the first quarter of 2023.

Source: DealForma.com database  
Financials based on disclosed figures. IPOs by first filing date. Data through 4/6/2023.

## Completed IPOs in Biopharma Therapeutics and Platforms: Totals (\$B) and Number of Rounds



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