



Healthcare Investments and Exits

Mid-Year 2022

Biopharma | HealthTech | Dx/Tools | Device

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Contents

3 Market Highlights

5 Healthcare Fundraising
and Investments

24 Computational Biology
Investments

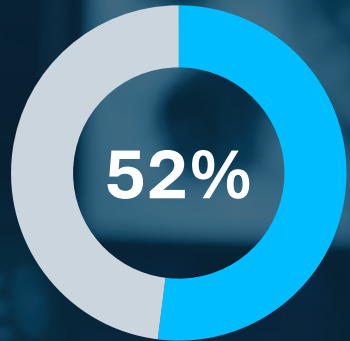
27 Healthcare M&A
and IPO Activity

37 Healthcare Outlook:
2022 and Beyond

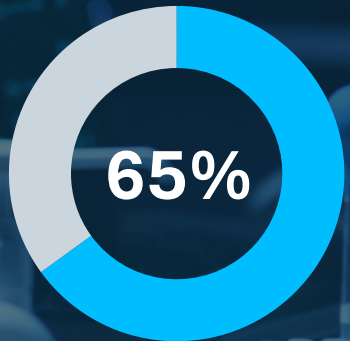
39 Glossary



SVB US Market Stats¹



52% of all VC-backed US healthcare companies that raised rounds since 2021 have a banking relationship with SVB.



65% of all VC-backed US healthcare companies that raised rounds greater than \$40M in 2021 have a banking relationship with SVB.

Healthcare Investments: Market Highlights 1H 2022

Healthcare Investor Fundraising Propels Strong Investment in 1H 2022

Venture capital (VC) fundraising in healthcare continued record-breaking activity, despite a difficult public market and frothy private valuations in 2020 and 2021. Fundraising in 1H 2022 was led by large hedge funds and private equity (PE) payers closing private funds with allocations to healthcare, followed by veteran biopharma-focused firms closing upsized funds. Additionally, many traditional tech investors closed new funds and continued to set aside some money for healthcare, primarily focused on healthtech.

Investment into healthcare companies in 1H 2022 exceeded \$38B, highlighted by Altos Labs' \$3B biopharma financing in Q1. Q2 investment dropped 36% from Q1 but trended up by the end of June. Though investment in 1H 2022 was lower than the record in 1H 2021, it beat 1H 2020 totals by 37%.

Biopharma early-stage activity persisted, unabated by public market turmoil. We continued to see many large \$50M+ series A deals, which provide a longer runway to potentially outlast a difficult down market. LIPO (likely to IPO)² activity declined precipitously in Q2 2022, lowering overall investment back to 2020's pace.

HealthTech experienced record early-stage investment in 1H 2022, but Q2 investment dropped 40% from Q1. Early-stage was highlighted by larger series A financings, mostly in clinical trial enablement. Later-stage financings fell shy of 1H 2021's blockbuster record. While mega-rounds³ (\$100M+) continued, that activity declined significantly in Q2. Alternative care investment declined while provider operations investment remained strong. We expect healthtech investment pace to continue to slow in 2H 2022.

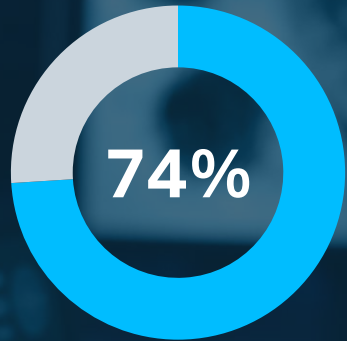
Dx/Tools early-stage investment yielded a strong Q1 for this sector but slowed substantially in Q2. Many of the larger early-stage deals focused on neurology. Later-stage investment was ahead of 1H 2021's pace, led by R&D tools financings, although dx tests deals and dollars were down. We continued to see the later-stage valuation pressure that we noted 2H 2021, leading to lower step-ups for these companies in 1H 2022.

Device early-stage investment was just shy of 1H 2021's record, led by non-invasive monitoring (NIM) and drug delivery companies. We also saw a spike in later-stage activity, propelled by \$100M+ investments in NIM, drug delivery and surgical robotics companies. However, the high later-stage valuations over the past three years remain a concern for companies facing their next financing decision.

Note: 1) Market statistics represent SVB commercial bank clients as of 6/30/22 with a VC-backed round of at least \$4M. 2) The LIPO (Likely to IPO) list tracks Top 15 Crossover-funded private mezzanine deals (\$40M+) as a proxy for IPO sentiment and pipeline. 3) Mega-round is a private round greater than or equal to \$100M.. All data as of 6/30/2022.

Source: PitchBook and SVB proprietary data.

SVB US IPO Market Stats¹



of all VC-backed healthcare IPOs since 2021 have a banking relationship with SVB.

Healthcare Exits: Market Highlights 1H 2022

VC-Backed Exits Plummet as Market Tries to Find Bottom

After record venture-backed healthcare exits in 2021, IPOs were down across all sectors in 1H 2022 as the public market largely blocked opportunities for companies to IPO. Private M&A also suffered, as acquirers faced eroding market caps and refocused on preserving cash and/or achieving near-term milestones rather than acquiring new companies. The private M&A deals we did see were either lower in deal value (healthtech, device and dx/tools) or larger deals, but lower multiples (biopharma) compared to the past few years. Acquirers focused on recent public companies, trading well off their highs, instead of private companies with more static, frothy valuations.

Biopharma IPOs, coming off record IPOs in 2021 (92) and four successive years with 50+ public offerings, plummeted in post-IPO performance, with the IPO class averages from 2019 to 2021 all hitting -50% or worse in 1H 2022. There were just 14 IPOs in 1H 2022, with only five still trading in positive territory. M&A was muted, with only two deals. While these deals were large, both companies raised significant private capital at large valuations, resulting in low return multiples for later-stage investors.

HealthTech IPOs came to a halt following a record number of IPOs in 2021 as public healthtech stock performance fell in the public markets. Despite these choppy markets, 1H 2022 M&A volume was strong, surpassing 1H 2021. However, activity declined in Q2, and overall deal values were down in the first half. In 2021 there were 33 publicly disclosed M&A deals over \$50M, and in 1H 2022 there were just five, highlighted by two provider operations M&A at \$300M+. We expect well-positioned venture-backed healthtech companies to continue to be acquisitive in the space.

Dx/Tools showed record IPO and M&A activity in 2021, doubling 2020's output. In 1H 2022, both types of exits declined substantially, with only four M&A and four IPOs. The IPOs all listed on the Shanghai Stock Exchange, suggesting that the market is still receptive to emerging commercial-stage stories. While the IPO class of 2019 maintained strong average post-IPO performance through 1H 2022, the classes of 2020 and 2021 were both down an average of more than 40%. Despite this overall trend in dx/tools, IPOs in the R&D tools subsector have been a bright spot, with positive average performance for IPOs since 2019. M&A deal values in 1H 2022 fell below historic medians but the capital invested in these companies was low, yielding high multiples for investors. Three of four private M&A were dx tests companies.

Device IPOs since 2019 have retained their value better than those in any other sector. However, the IPO window currently appears closed with no IPOs in 1H 2022. In 2021 we saw raised M&A activity as new small and mid-cap public companies bought emerging device technologies. In 1H 2022, with the public market reeling, acquirers appeared to prioritize cash spend rather than seeking out new M&A opportunities. There were two orthopedic M&A in 1H 2022, making this indication the top private M&A category over the last two years, with six transactions.

Note: 1) IPO statistics represent SVB US commercial bank clients. IPO defined as all private, venture-backed IPOs raising at least \$25M in proceeds. Public market performance metrics calculated as of 6/30/2022.

Source: PitchBook, Capital IQ and SVB proprietary data.



Healthcare Fundraising and Investments

US and Europe



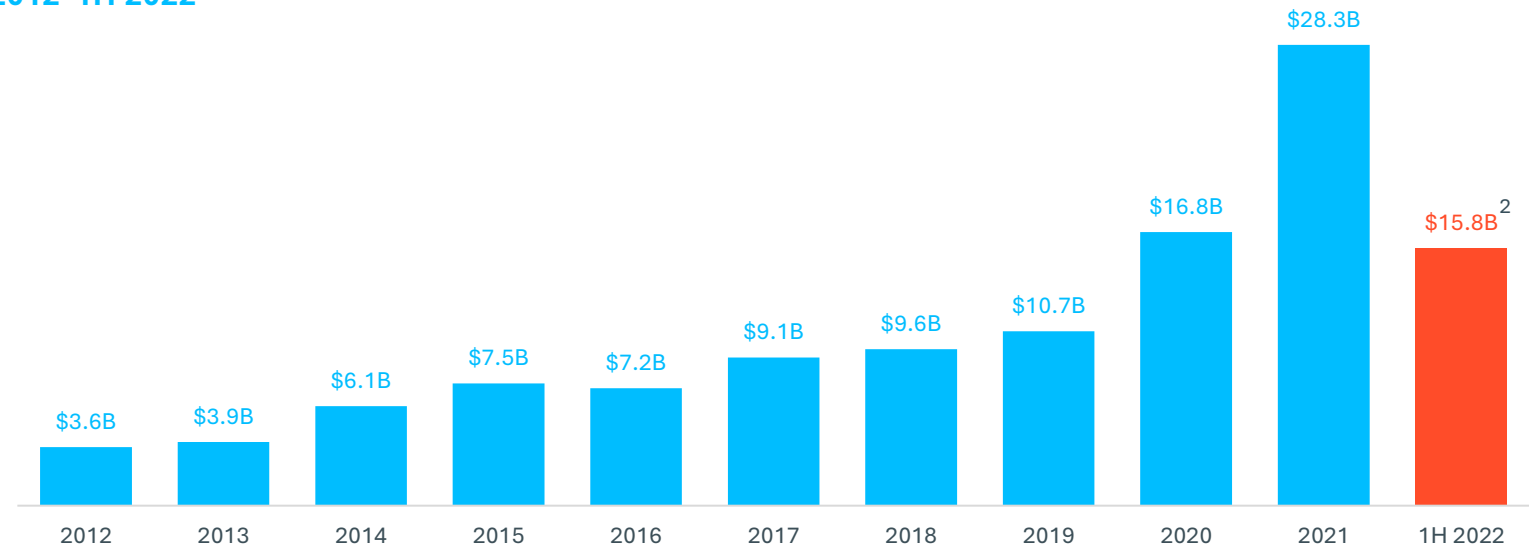
Investors Aggressively Fundraise into Downturn

After the biggest healthcare fundraising year ever in 2021, fundraising continued in earnest, despite the poor performance by recent IPOs and fear of frothy valuations in private venture portfolios. Venture fundraising in 2022 has already reached \$15.8B — marking the third-highest year ever — just at the midway point.

The current fundraising environment is providing new capital to venture healthcare in three ways. First, growth/expansion funds like Tiger Global, Lead Edge and Alpha Wave raised large, private venture-focused funds with a portion slated to healthcare (primarily healthtech for Tiger Global and Lead Edge and biopharma for Alpha Wave). Second, established biopharma firms continued to raise larger funds, led by groups like Arch, Third Rock, Frazier, The Column Group, 5AM and Atlas. Third, traditional tech funds continued to invest more into healthtech. In 1H 2022 alone, 50 new tech-focused funds closed with a 5%-15% allocation to healthtech companies².

In 2022, we anticipate non-traditional investors to participate in fewer new venture-backed deals compared to 2021. Nevertheless, funds raised for healthcare investment over the past few years provide substantial dry powder to support new and existing venture-backed portfolio companies over the long term.

US Healthcare Venture Capital Fundraising¹ 2012–1H 2022



Notable Funds with Allocations to Healthcare³

THE
COLUMN
GROUP

ARCH
VENTURE
PARTNERS

ALPHA WAVE

FRAZIER
LIFE SCIENCES

flare
capital partners

5AM
VENTURES

al6z

HealthQuest
CAPITAL

THIRD ROCK
VENTURES

CATALIO

TIGERGLOBAL

FOUNDERS FUND

ATLAS VENTURE

Note: 1) US Healthcare Venture Capital Fundraising defined as an approximation of healthcare investment dollars to be invested by firms that historically invest in +50% US companies. 2) Estimates based off of anecdotal conversations with investors and expert analysis of last fund deal pace and focus on healthtech. 3) Notable funds based on largest estimated allocation to venture healthcare.

All data as of 6/30/2022.

Source: PitchBook and SVB proprietary data.

Investment Decreased from 2021 but Remains Historically High

2021 set the record for investment into US and European healthcare companies, up 65% from the previous record in 2020 and almost tripling the dollars from 2018 and 2019.

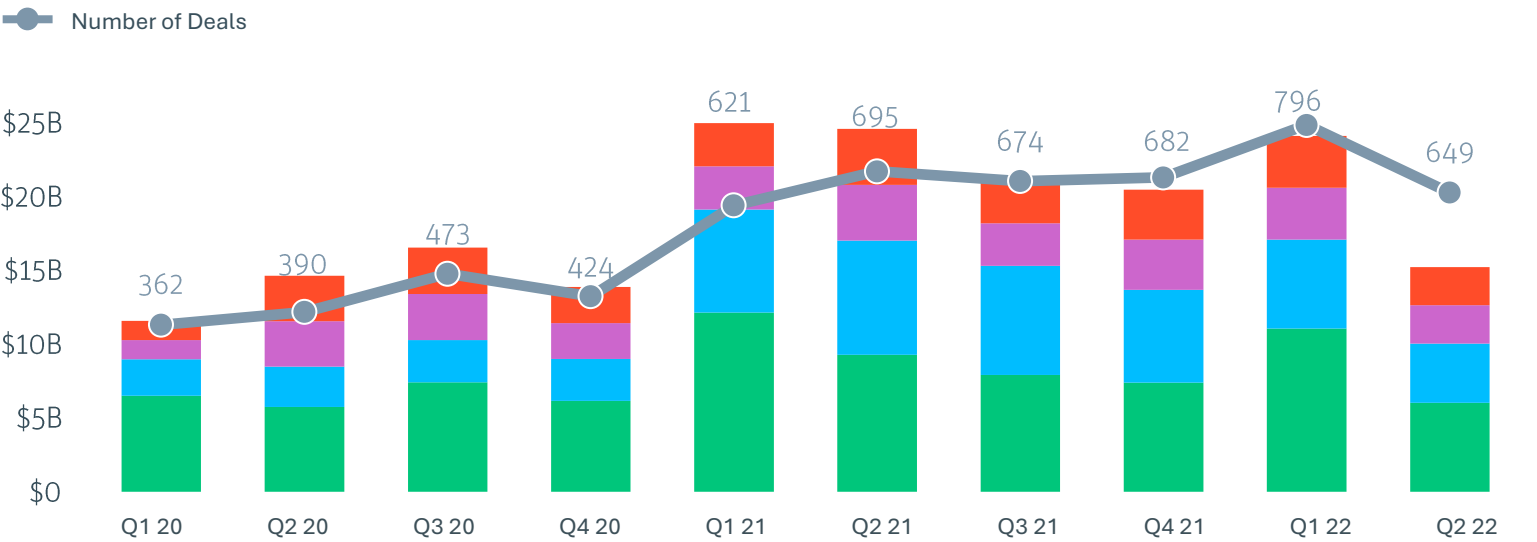
Despite a tough macroeconomic market, with dwindling IPOs and downward-spiraling public market valuations, investment was surprisingly robust. Q1 2022 investment totaled \$23B, led by a huge \$3B private biopharma financing for Altos Labs, nearly matching the record investment pace of Q1 and Q2 2021.

Q2 2022 showed weaker numbers, with both deals and dollars dropping in May. This confirms anecdotal conversations with both investors and companies that noted a recent slowdown in investment pace. In June, investment ticked back up. Overall, Q2 2022 investment totaled \$15.5B, putting it behind every quarter in 2021 but ahead of every quarter in 2020.

In 2H 2022, we expect dollars and deals to slightly decline as bridges and insider rounds become widespread, typically at smaller deal sizes than outside-led rounds. This will provide time for companies to catch up to existing valuations and lead into a very interesting late 2023 and 2024, when companies will likely need to raise rounds priced by outside investors.



VC Dollars and Deals by Healthcare Sectors US and Europe¹



	2020			2021			1H 2022		
Sectors (\$M)	US	Europe	Total	US	Europe	Total	US	Europe	Total
Biopharma	21,198	4,597	25,796	30,097	6,735	36,832	14,559	2,529	17,088
HealthTech ²	9,563	1,365	10,928	26,020	2,448	28,468	8,031	2,234	10,265
Dx/Tools	8,322	1,632	9,954	10,567	2,424	12,991	5,768	952	6,720
Device	4,997	773	5,770	6,189	2,322	8,511	3,730	849	4,580
Total	44,081	8,367	52,448	72,871	13,930	86,802	32,087	6,565	38,652

Note: 1) Europe includes UK and EU countries. 2) HealthTech deals that overlap with other sectors are not included in healthtech totals on this slide but are included in healthtech-specific analyses on pages 12–15. With overlap, healthtech investments for 1H 2022 total \$17.7B. Financing data include private financings by venture-backed companies in the US and Europe. Dates of financing rounds are subject to change based on add-on investments.

All data as of 6/30/2022.

Source: PitchBook and SVB proprietary data.

HEALTHCARE INVESTMENTS AND EXITS | MID-YEAR REPORT 2022 7

Big Series A's Provide Protection in Downturn

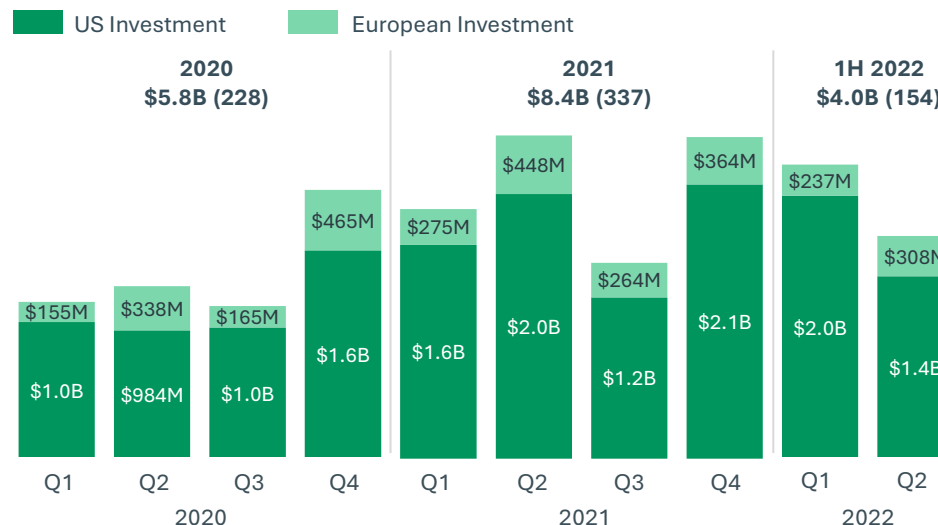
In 1H 2022, early-stage investment activity was slightly ahead of 2H 2021 and far ahead of 2020's pace. Q1 was the second-biggest investment quarter ever, but Q2 dropped in both dollars (~30%) and deals (~33%). By indication, we saw the largest drops in neuro dollars and anti-infective deals. However, valuations were up overall, even as later-stage deals continued to feel downward pressure from the public market.

Over the last two years, we noted an increase in \$50M+ series A deals, which were typically followed by a mezzanine round and IPO. 1H 2022 clocked in with 28 of these deals, similar to 2021 activity (30 deals in 1H; 26 deals in 2H) and far ahead of 2020 (18 deals in 1H; 21 deals in 2H). Instead of leading into IPOs, large series A deals now offer valuable protection, providing companies with cash burn to potentially weather the full market cycle while achieving major milestones. In 1H 2022, the most active VCs in \$50M+ series A deals were Orbimed (six deals), Samsara, Catalio, SV and Omega (three) and Vida, The Column Group, Third Rock, Polaris and Flagship (two).

Anecdotally, in 1H 2022, we have heard that early-stage biopharma investors are 1) looking to fund companies with assets that are now closer to the clinic and 2) pushing platform deals to be more selective when advancing assets into the clinic to extend their cash runway.



Seed/Series A¹ Dollars and (Deals) US and Europe

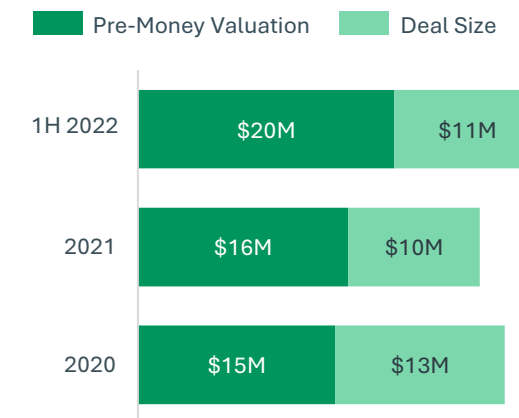


Seed/Series A Dollars and Deals by Top Indications

Indications	2020		2021		1H 2022	
	Dollars	Deals	Dollars	Deals	Dollars	Deals
Platform	\$1.6B	56	\$2.9B	89	\$1.6B	39
Oncology	\$1.4B	59	\$1.8B	73	\$1.1B	35
Neurology	\$996M	33	\$1.0B	47	\$103M	16
Orphan/Rare	\$518M	19	\$405M	17	\$111M	4
Anti-Infective	\$154M	10	\$402M	25	\$265M	8
Auto-Immune	\$241M	6	\$307M	7	\$117M	3

Note: 1) Seed/series A includes first-time investments from institutional or corporate venture investment in the US and Europe and any first-round investments equal to or greater than \$2M, regardless of investor. 2) These company overlaps with the healthcare sector and are included in both sets of sector-specific analyses. Dates of financing rounds are subject to change based on add-on investments. All data as of 6/30/2022.
Source: PitchBook and SVB proprietary data.

Median Seed/Series A Valuations US and Europe



Largest 1H 2022 Seed/Series A Deals



Investments Fall in 2H as LIPO Activity Wanes

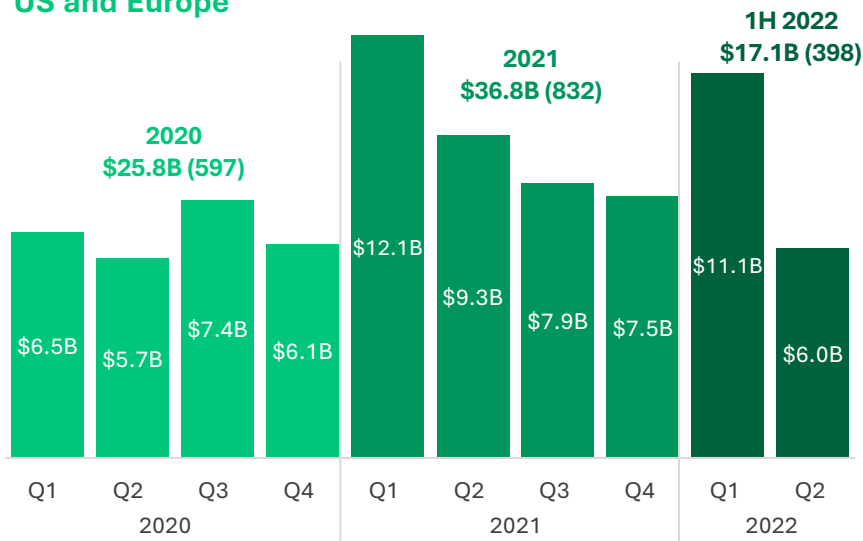
Investment in Q1 2022 (when excluding the \$3B outlier financing by Altos Labs in Q1) was still ahead of 2021's pace. However, Q2's decline puts 1H 2022 behind 2021 but near 2020's pace, which was the second-highest investment year on record. Platform and anti-infective dollars have already matched or surpassed investment totals from 2020 and are on pace to beat 2021 by the end of the year. Neurology and orphan/rare investments were both down. We anticipate slowed biopharma investment in 2H 2022 and into 2023, though it will likely exceed 2020 totals.

LIPO investment has historically been a good proxy to track companies that will IPO (75% of LIPO deals in 2019 and 2020 have since completed an IPO). Since Q2 2021, however, most LIPO deals have remained private as IPO activity declined, creating a substantial backlog of companies that expected to go public. LIPO activity dropped 50% to eight deals in Q2 2022, reflecting crossover investors' focus on their existing public and private portfolios.

Will existing LIPO investors support another private round for their portfolio companies that are unable to go public? We expect some crossover investors to reduce new investment, and some may leave the sector. This is unlikely to have an immediate impact on LIPO deals, as most LIPO investor syndicates include multiple venture firms, with ample capital available to support these companies in the short term.



Total Dollars and (Deals) US and Europe



Biopharma Dollars and Deals by Top Indications US and Europe

Indications	2020		2021		1H 2022	
	Dollars	Deals	Dollars	Deals	Dollars	Deals
Platform	\$6.9B	115	\$11.4B	192	\$7.8B	94
Oncology	\$7.9B	172	\$10.7B	228	\$3.4B	89
Neurology	\$2.5B	76	\$3.5B	104	\$892M	43
Orphan/Rare	\$2.2B	45	\$1.4B	39	\$352M	12
Anti-Infective	\$1.1B	37	\$1.7B	51	\$947M	30
Auto-Immune	\$616M	15	\$1.7B	30	\$749M	13

LIPO Deal Activity in Biopharma¹

Quarter	LIPO Deals	Median Pre-Money (\$M)	Median Deal Size (\$M)	IPO %
Q3 19	10	\$125	\$102	100%
Q4 19	10	\$100	\$85	70%
Q1 20	17	\$245	\$108	88%
Q2 20	21	\$150	\$86	62%
Q3 20	28	\$140	\$92	54%
Q4 20	15	\$140	\$87	53%
Q1 21	38	\$184	\$100	53%
Q2 21	31	\$200	\$105	10%
Q3 21	24	\$169	\$90	13%
Q4 21	16	\$172	\$102	0
Q1 22	16	\$180	\$100	0
Q2 22	8	\$150	\$110	0

2022 Highest-Valued Private Companies²

eikon ³	Platform	\$3.0B post
TESSERA	Platform	\$1.7B post
KALLYOPE ³	Platform	\$1.1B post
NUTCRACKER ³	Oncology	\$967M post
M2	Metabolic	\$750M post
KRIYA ³	Platform	\$671M post
abpro	Anti-Infective	\$642M post
SalioGen	Platform	\$632M post
ALZHEON ³	Neurology	\$550M post
LifeMine ³	Oncology	\$525M post

Note: 1) The LIPO (Likely to IPO) list tracks the top 15 crossover-funded private mezzanine deals (\$40M+) as a proxy for IPO sentiment and pipeline. 2) Only includes private post-money values from publicly disclosed 2022 financings in PitchBook. 3) These companies overlap with the healthcare sector and are included in both sets of sector-specific analyses. Financing data include private financings by venture-backed companies in the US and Europe. Dates of financing rounds are subject to change based on add-on investments.

All data as of 6/30/2022.

Source: PitchBook and SVB proprietary data.

Biopharma Step-Ups: 2022

We calculated 74 step-ups¹ out of the 398 biopharma financings in 1H 2022.

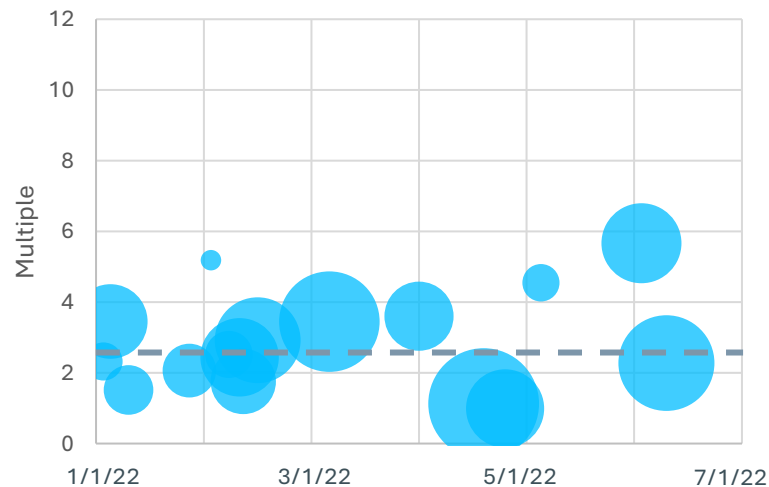
We noted strong median step-ups in early-stage deals (seed-A and A-B), showing that new financings can still be rewarded for creating value, even in a down market. There were four 10x+ step-ups, with three focused on gene editing/therapy (Genascence, Saliogen and Yap) and one focused on computational biology for drug discovery (Eikon).

Later-stage up-rounds suffered along with the public market, all falling below 2.1x except for one big step-up by BioFactura (5.8x), a biosimilars company. Financing has been challenging given the heady valuations over the past few years, combined with the decline in IPO activity and the valuation compression of venture-backed companies that went public over the past five years. Instead of outsider-led deals in 2H 2022, we believe that many companies will choose to open up their last round to new investors or complete insider financings to provide runway through 2023, likely at flat valuations. Luckily, most of these companies have the support of strong venture syndicates with plenty of dry powder.

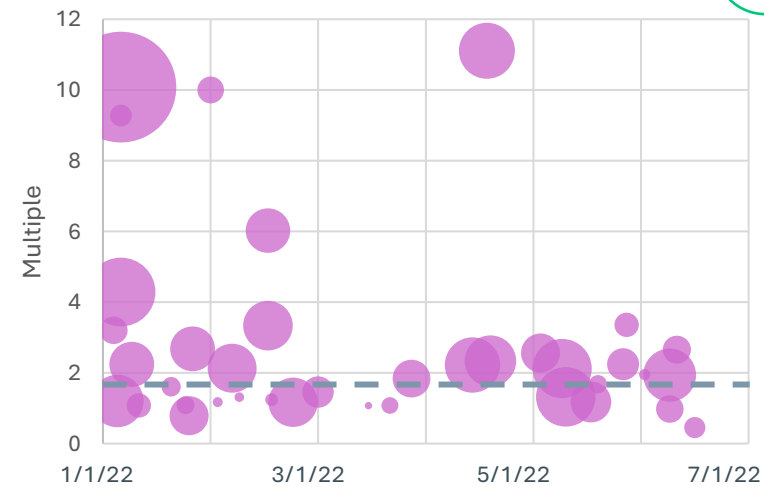
Step-Up	Median Multiple
Seed-A	2.5x
A-B	1.9x
B-C	1.4x
C-D+	2.0x



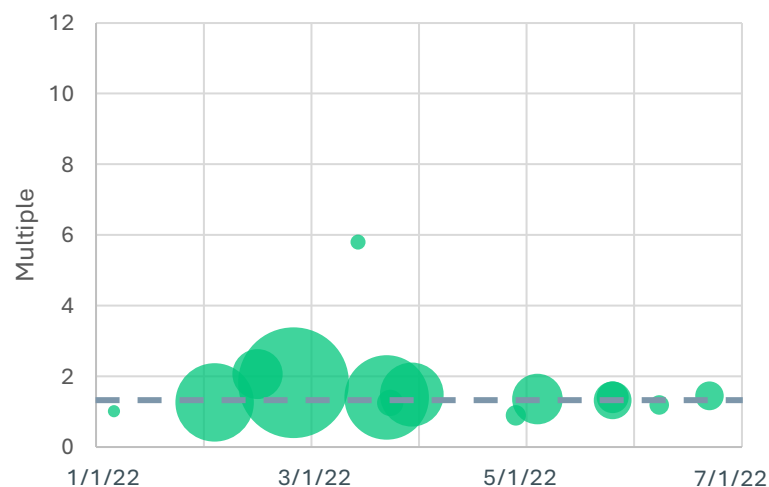
Biopharma Step-Ups Seed-Series A²



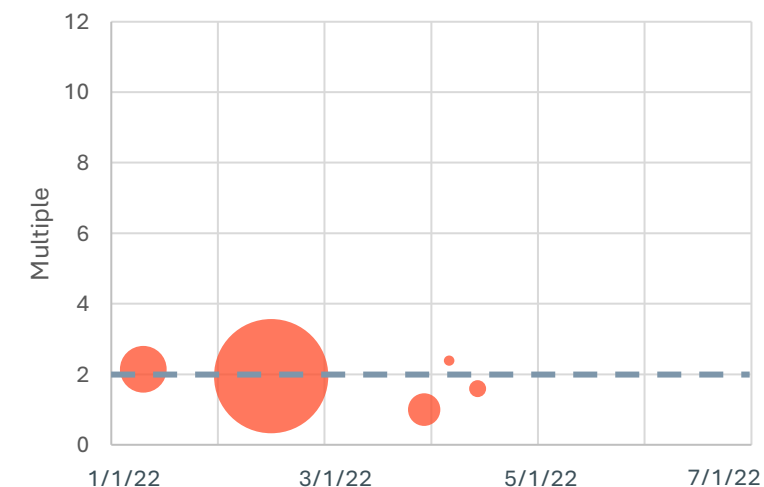
Biopharma Step-Ups Series A-B



Biopharma Step-Ups Series B-C



Biopharma Step-Ups Series C+



Note: Size of bubble indicates size of 2022 financing.

— Dotted line indicates median step-up.

Note: 1) Step-ups are calculated by dividing the company's 2022 financing pre-money valuation by its most recent financing post-money valuation if it occurred between 2019–2022. Only includes financing and valuation information from publicly disclosed financings in PitchBook. 2) Seed/Series A chart does not include an outlier of a 33x step-up for Genascence. Dates of financing rounds are subject to change based on add-on investments. All data as of 6/30/2022.




















Source: PitchBook and SVB proprietary data.





Most Active¹ Biopharma Investors

Deal Count, US and Europe (2021–1H 2022)

Venture Activity Overall			Later-Stage/Crossover Activity Overall			Corporate Venture Activity Overall			Platform			Oncology		
35	25 2021 10 1H 2022		57	48 2021 9 1H 2022	RACAPITAL	38	34 2021 4 1H 2022		11	8 2021 3 1H 2022		24	20 2021 4 1H 2022	RACAPITAL
27	21 2021 6 1H 2022		42	37 2021 5 1H 2022		16	11 2021 5 1H 2022		10	10 2021 0 1H 2022	RACAPITAL	20	19 2021 1 1H 2022	
16	14 2021 2 1H 2022		38	31 2021 7 1H 2022		14	9 2021 5 1H 2022		10	9 2021 1 1H 2022		17	16 2021 1 1H 2022	Janus Henderson INVESTORS
14	11 2021 3 1H 2022		38	34 2021 4 1H 2022	Janus Henderson INVESTORS	12	9 2021 3 1H 2022		10	9 2021 1 1H 2022		16	12 2021 4 1H 2022	
14	13 2021 1 1H 2022		35	29 2021 6 1H 2022		11	8 2021 3 1H 2022		9	6 2021 3 1H 2022	T.RowePrice®	15	13 2021 2 1H 2022	

Early-Stage Activity Hits Record in Q1, Dips in Q2

Q1 2022 was the biggest quarter on record for seed/series A healthcare investments. However, Q2 2022 investment dropped 40% as investors slowed their pace due to the public market correction.

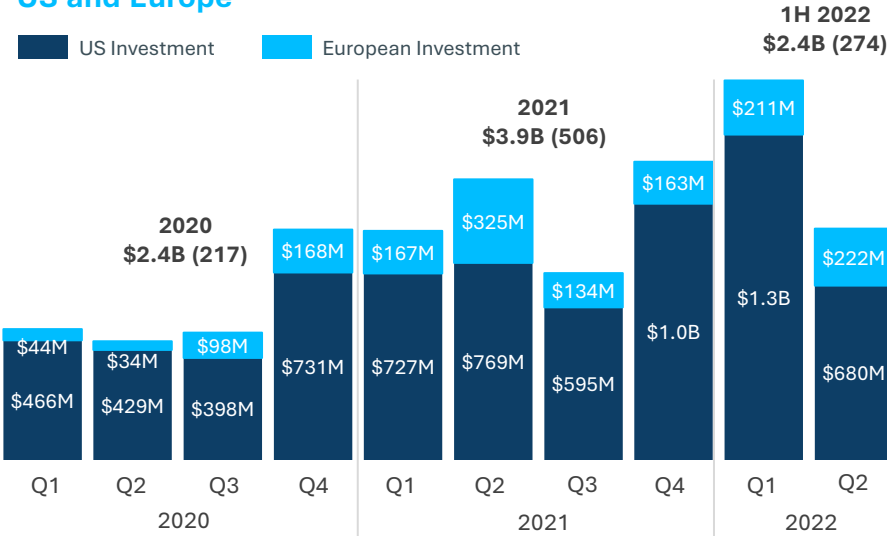
Median early-stage valuations are up in 1H 2022, the first increase in over two years. We heard anecdotally from investors that public market volatility has made valuation discussions easier with early-stage founding teams. However, for top-tier deals in Q1, valuations were maintained as VCs competed to invest. We expect median valuations to fall as the market corrects in 2H 2022.

In 1H 2022 alternative care (AC) is on pace to set a record for both seed/series A deals and investment. Venture investors recognize AC is here to stay and in 1H 2022 were focused more on early-stage investments at lower valuations than later-stage more expensive companies. Three of the top five largest alternative care deals focused on senior care: EmpowerMe Wellness (\$100M), Pine Park Health (\$44M) and Amada Senior Care (\$22M). In response to the surge of virtual care, early-stage provider operations (PO) deal volume is increasing to help modernize workflows.

We also noted the strong increase in the number of AC women's health deals, with the subsector leading 14 seed/series A investments in 1H 2022, vs. 16 seed/series A investments for the full year 2021. This growing supply of venture-backed AC companies significantly increases access to personalized and specialty care for a broader patient population, and we expect early-stage investment into hybrid and virtual care to persist in 2H 2022.



Seed/Series A¹ Dollars and (Deals) US and Europe



Seed/Series A Dollars and Deals by Top Subsectors

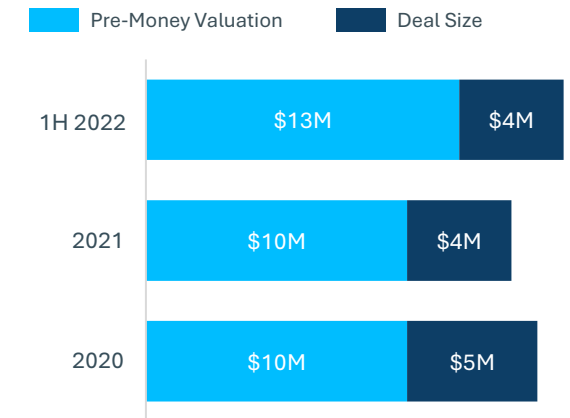
Subsectors	2020		2021		1H 2022	
	Dollars	Deals	Dollars	Deals	Dollars	Deals
Provider Operations	\$613M	75	\$1.4B	200	\$661M	108
Clinical Trial Enablement	\$966M	39	\$1.1B	69	\$834M	30
Alternative Care	\$497M	55	\$777M	136	\$610M	69
Wellness & Education	\$169M	31	\$290M	68	\$237M	56
Medication Management	\$44M	8	\$24M	10	\$30M	7
Healthcare Navigation	\$65M	5	\$252M	22	\$3M	1

Note: 1) Seed/series A includes first-time investments from institutional or corporate venture investment in the US and Europe and any first-round investments equal to or greater than \$2M, regardless of investor. Dates of financing rounds are subject to change based on add-on investments. 2) These companies overlap with the biopharma or dx/tools sector and are included in both sets of sector-specific analyses.

All data as of 6/30/2022.

Source: PitchBook and SVB proprietary data.

Median Seed/Series A Valuations US and Europe



Largest 1H 2022 Seed/Series A Deals



Investment Persists in 1H, Slowdown Expected

With \$40B invested, 2021 more than doubled 2020's previous record, and nearly hit 4x the annual investment pace from 2018–2019 (\$11B). While Q1 2022 investment (\$10.4B) surpassed 2021's quarterly average, investments dropped 30% in Q2 2022, as the market began to correct from 2021's record. EU healthtech investment reached a record high \$3.1B in 1H 2022 as compared to \$2.3B in 1H 2021, a 35% increase.

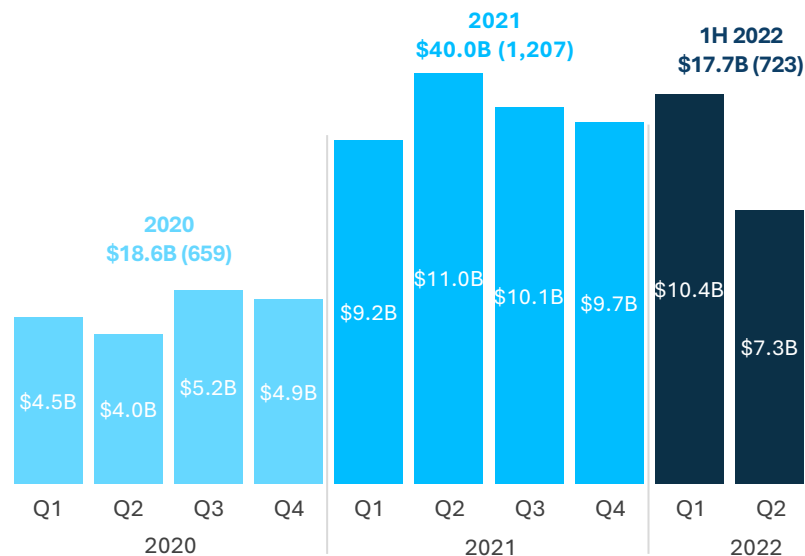
By subsector, insurance investment dropped to less than \$100M after the large financings in 2021 in Devoted Health (\$1,200M), Sidcare Health (\$125M) and Nomi Health (\$110M). Alternative care (AC) deal flow continued to be strong, but we noted a drop in larger deals. There were 13 \$300M+ AC financings in 2021, but only three in 1H 2022: Doctolib, Somatus and Biofourmis.

There was also an increase in AC women's health company financings, primarily in fertility and pregnancy such as Kindbody (\$30M). In addition, we have noticed more women's health companies focusing across all stages of life such as Evernow (\$29M), a menopause-focused company, and Tia (\$100M in 2021), a holistic medical clinic for women. We expect increased investment into women's health subsectors outside of fertility and pregnancy, as well as established women's health companies expanding to include services beyond fertility.

Large PE and hedge fund investors slowed their pace as we saw a decrease in \$250M+ rounds in 1H 2022. There were 26 \$250M+ financings in 2021 but only six so far in 1H 2022 and none by Tiger Global, Softbank or T.Rowe, who each did multiple \$250M+ deals in 2021. We predict Q3 2022 investment into healthtech will correct to 2020 levels (~\$4.7B), then begin to normalize around \$7B.



Total Dollars and (Deals) US and Europe



Notable 1H 2022 Deals

2020 2021 1H 2022

\$250M+ to \$399M

SOMATUS
biofourmis¹

KRIYA¹

5 17 3

≥ \$400M

Doctolib
eikon¹
therapeutics

2 9 2

Dollars and Deals by Top Subsectors US and Europe

	2020		2021		1H 2022	
Subsectors	Dollars	Deals	Dollars	Deals	Dollars	Deals
Alternative Care	\$5.2B	173	\$14.7B	333	\$4.8B	172
Provider Operations	\$4.3B	236	\$9.8B	456	\$4.5B	274
Clinical Trial Enablement	\$5.8B	115	\$8.8B	187	\$6.0B	113
Wellness & Education	\$1.1B	75	\$2.3B	136	\$904M	111
Insurance	\$953M	13	\$1.7B	12	\$59M	8
Healthcare Navigation	\$610M	22	\$1.7B	55	\$687M	17

Highest-Valued Financings in 1H 2022²

ro	Alternative Care	\$6.6B post
Doctolib	Alternative Care	\$5.9B post
Reify HEALTH	Clinical Trial Enablement	\$4.8B post
commure	Provider Operations	\$3.5B post
Aledade	Alternative Care	\$3.1B post
eikon ¹ therapeutics	Clinical Trial Enablement	\$3.0B post
alan	Alternative Care	\$2.9B post
SOMATUS	Alternative Care	\$2.7B post

Note: 1) These companies overlap with the biopharma, dx/tools or device sectors and are included in both sets of sector-specific analyses. 2) Only includes private post-money values from publicly disclosed 2022 financings in PitchBook. Financing data include private financings by venture-backed companies in the US and Europe. Dates of financing rounds are subject to change based on add-on investments. All data as of 6/30/2022.

Source: PitchBook and SVB proprietary data.

HealthTech Step-Ups: 2022

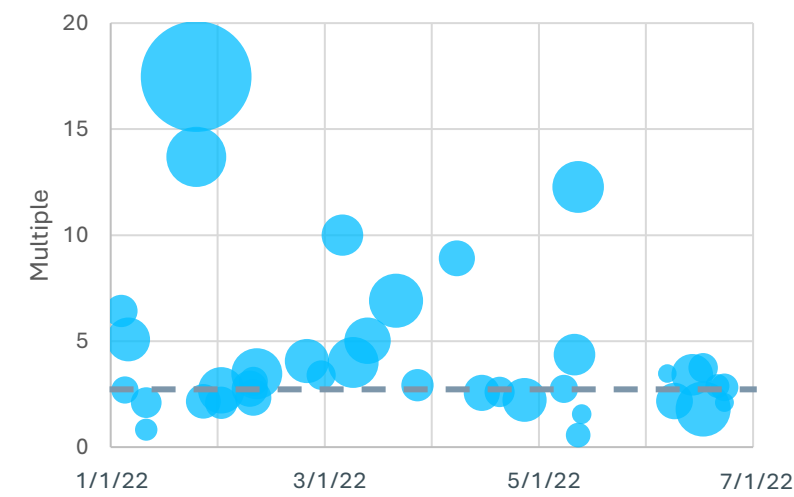
We calculated 114 step-ups¹ out of the 723 healthtech financings in 1H 2022.

When compared to all other sectors, healthtech had the best step-up multiples in both early and later-stage deals. In 1H 2022, we saw 16 early-stage deals (seed-A and A-B) with 5x+ step-ups, heavily skewed toward the start of the year with 11 in Q1 and only five in Q2. Of these large early-stage step-ups, the top subsectors were alternative care (seven deals), provider operations (four) and wellness & education (three). The top four early-stage deals were Patient12 (17.9x) and Homeward Health (10x), both alternative care primary care companies, and Atlas Health (13.7x) and AcuityMD (12.3x), both provider operations companies.

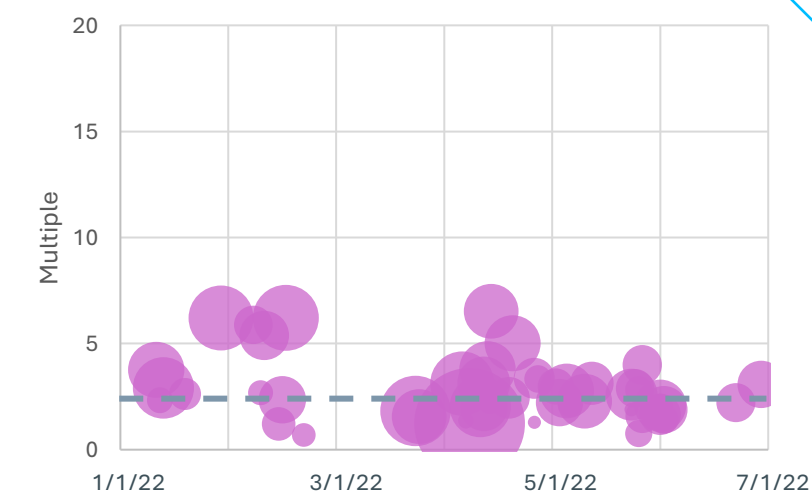
We also continued to see strong later-stage step-ups despite downward trending public market comps. Nine healthtech companies raised later-stage rounds with 3x+ step-ups. The top two were CareBridge Health (10x), an alternative care company, and Health Gorilla (5.5x), a provider operations company.

Step-Up	Median Multiple
Seed-A	2.9x
A-B	2.5x
B-C	2.0x
C-D+	2.1x

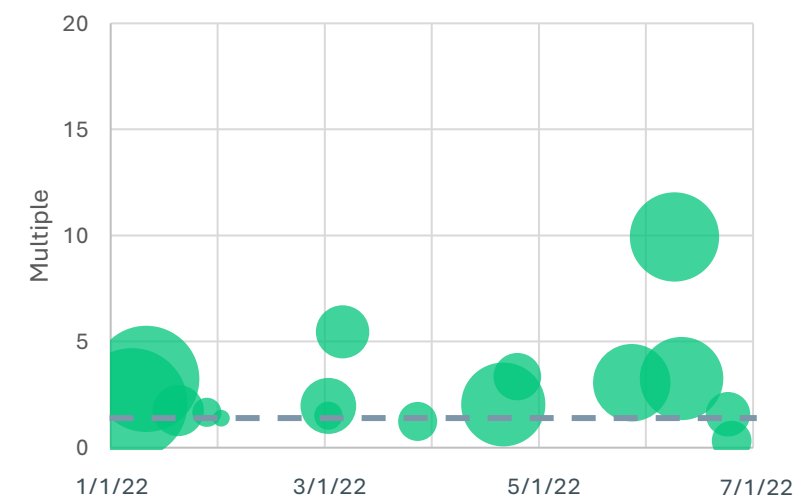
HealthTech Step-Ups Seed-Series A



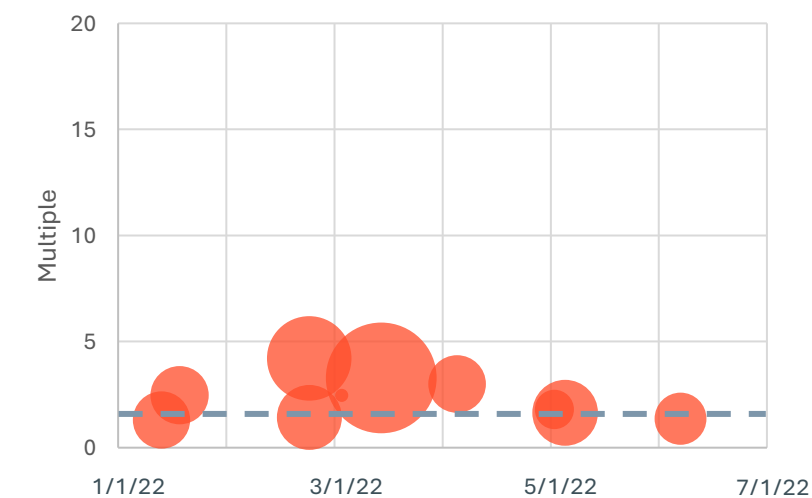
HealthTech Step-Ups Series A-B



HealthTech Step-Ups Series B-C



HealthTech Step-Ups Series C-D+



















Note: Size of bubble indicates size of 2022 financing.
 — — Dotted line indicates median step-up.

Note: 1) Step-ups are calculated by dividing the company's 2022 financing pre-money valuation by its most recent financing post-money valuation if it occurred between 2019–2022. Only includes financing and valuation information from publicly disclosed financings in PitchBook.
 Dates of financing rounds are subject to change based on add-on investments. All data as of 6/30/2022.
 Source: PitchBook and SVB proprietary data.

Most Active¹ HealthTech Investors

Deal Count, US and Europe (2021–1H 2022)

Venture Activity Overall			Later-Stage/Crossover Activity Overall			Corporate Venture Activity Overall			Alternative Care			Provider Operations		
33	26 2021 7 1H 2022	Gaingels 	30	22 2021 8 1H 2022	TIGERGLOBAL	19	34 2021 4 1H 2022	G/	14	12 2021 2 1H 2022	Gaingels 	10	8 2021 2 1H 2022	Gaingels 
32	20 2021 12 1H 2022	GENERAL  CATALYST	21	17 2021 4 1H 2022	 SoftBank	15	11 2021 5 1H 2022	 OPTUM™	13	10 2021 3 1H 2022	TIGERGLOBAL	9	7 2021 2 1H 2022	GENERAL  CATALYST
23	16 2021 7 1H 2022	 ALUMNI VENTURES GROUP	14	10 2021 4 1H 2022	 CASDIN CAPITAL LIFE SCIENCE INVESTMENTS	9	9 2021 5 1H 2022	 MERCK	11	6 2021 5 1H 2022	GENERAL  CATALYST	8	5 2021 3 1H 2022	TIGERGLOBAL
20	17 2021 3 1H 2022	andreessen. horowitz	11	8 2021 3 1H 2022	 Synetro Group	8	9 2021 3 1H 2022	leaps 	8	7 2021 1 1H 2022	G/	7	4 2021 3 1H 2022	INSIGHT PARTNERS
20	11 2021 7 1H 2022	INSIGHT PARTNERS	9	5 2021 4 1H 2022	 Fidelity INVESTMENTS	11	8 2021 3 1H 2022	 INTERMOUNTAIN VENTURES	8	8 2021 0 1H 2022	andreessen. horowitz	7	6 2021 1 1H 2022	 OPTUM ² VENTURES

Note: 1) Most active new investors calculated as new (first-time) investments in US and European companies from 2021–1H 2022. Dates of financing rounds subject to change based on add-on investments. Corporate parent and corporate venture investment are combined under corporate investor. 2) Additional investors not listed due to space limitations.

Source: PitchBook and SVB proprietary data.

Q1 Funding Strong but Worrisome Q2 Decline

Seed/Series A continued to rebound from its low in Q2 2020, with 1H 2022 on pace to match 2021 activity. However, while Q1 was a very strong quarter for early-stage investment, Q2 dropped considerably, with investment down 57% and deals down 24%. There were only five \$10M+ and no \$20M+ deals in Q2.

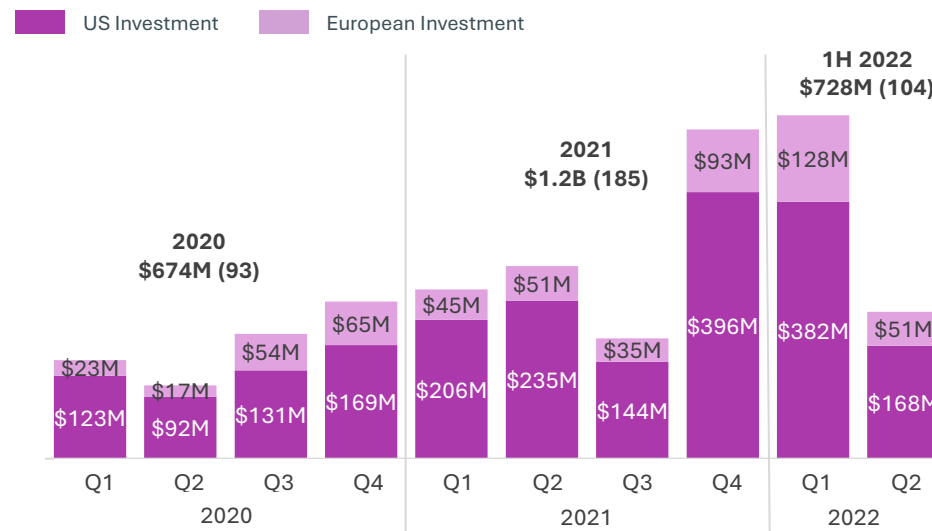
In dx tests, the largest early-stage deals were focused on neurology, with two in brain health (BRAINBox and Diadem) and one in autism (Linus Biotechnology). Anti-infective-focused companies led activity in this subsector with seven deals in 1H 2022 (although only one focused on COVID-19), followed by four deals in both men's health (three fertility, one urology) and in neurology. We noted only one oncology dx tests deal, likely due to the crowded later-stage liquid biopsy landscape.

Dx Analytics had three \$20M+ deals in 1H 2022, with two focused on neurology — including migraine treatment (AndHealth) and neural structure analysis (Inteneural Networks) — and the third working on optimizing spinal surgery (Companion Spine). While the majority of early-stage dx analytics companies are pursuing platform technologies, the deals that focused on a specific indication were primarily in oncology (eight deals) and neurology (six).

In R&D tools, the largest seed/series A deals were from companies supporting drug discovery (Spatial Genomics, Ribbon Biolabs, Fuzionaire and Ordaos), with two focused on optimizing workflows (Ribbon Biolabs and Volta Labs).



Seed/Series A¹ Dollars and (Deals) US and Europe

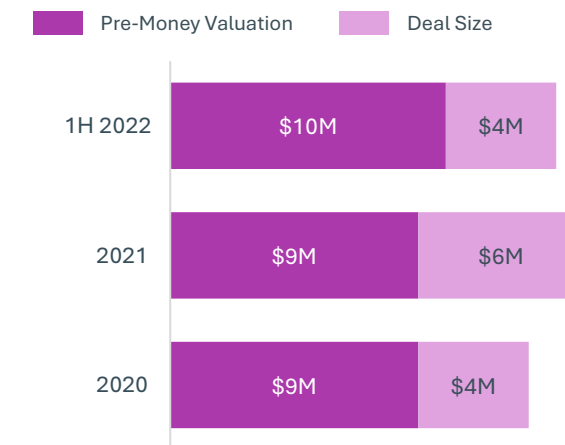


Seed/Series A Dollars and Deals by Subsectors

Subsectors	2020		2021		1H 2022	
	Dollars	Deals	Dollars	Deals	Dollars	Deals
R&D Tools	\$296M	41	\$540M	88	\$247M	34
Dx Analytics	\$190M	22	\$446M	48	\$289M	40
Dx Tests	\$188M	30	\$220M	49	\$192M	30

Note: 1) Seed/series A includes first-time investments from institutional or corporate venture investment in the US and Europe and any first-round investments equal to or greater than \$2M, regardless of investor.
 2) These companies overlap with the healthcare sector and are included in both sets of sector-specific analyses.
 All data as of 6/30/2022.
 Dates of financing rounds are subject to change based on add-on investments.
 Source: PitchBook and SVB proprietary data.

Median Seed/Series A Valuations US and Europe



Largest 1H 2022 Seed/Series A Deals



Dx/Tools Investment at 2020 Pace; Dx Tests Activity Declines

Overall, dx/tools investment was right at the record investment in 2021 and far ahead of 2020. While R&D tools and dx analytics investment remained strong, dx tests investment was hit hard in 1H 2022, down 38% in dollars vs. 2H 2021. We do anticipate a decline in 2H 2022 dx/tools investment, with full year dollars in-between 2020 and 2021 totals.

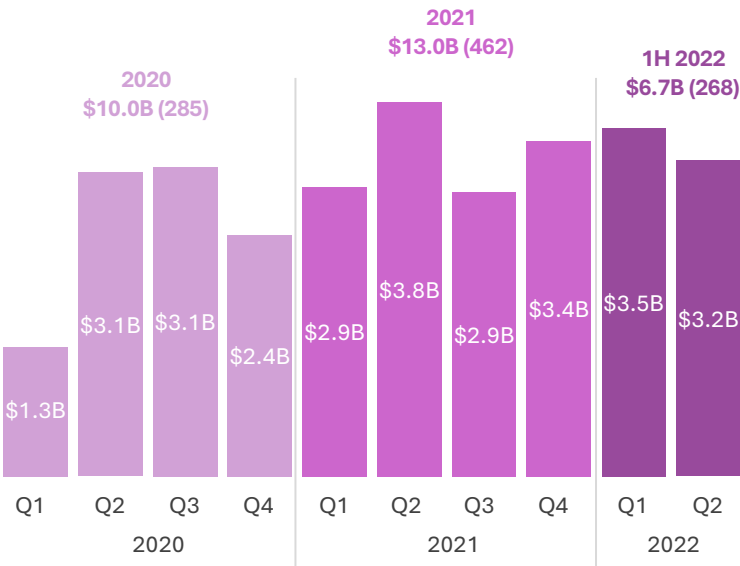
Of the 14 \$100M+ financings in 1H 2022, R&D tools dominated with eight deals, while there were only two dx tests companies, BillionToOne and Visby Medical.

Resilience, a drug manufacturing company, remained the highest valued publicly disclosed private dx/tools company, raising its second \$600M+ financing in two years and almost doubling last year's top valuation of \$5.7B.

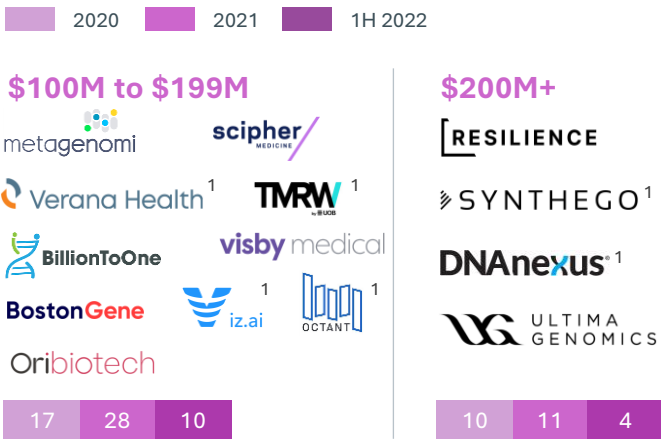
With 12 disclosed \$1B+ private valuations in the last 18 months, the question remains whether these companies will be able to secure attractive M&A opportunities to exit in the near-term, as public markets appear to have closed. Since 2005, there have only been two venture-backed private M&A with \$1B+ upfront payments (GRAIL and Thrive Earlier Detection, both in 2020). Rather than exiting, well-capitalized companies will likely use their extended runway to focus on product development and revenue ramp up while waiting out the current down cycle.



Total Dollars and (Deals) US and Europe



Notable 1H 2022 Deals



Dollars and Deals by Subsectors US and Europe

Subsectors	2020		2021		1H 2022	
	Dollars	Deals	Dollars	Deals	Dollars	Deals
R&D Tools	\$4.7B	122	\$6.4B	205	\$3.8B	107
Dx Tests	\$3.0B	79	\$3.4B	137	\$1.1B	66
Dx Analytics	\$2.2B	84	\$3.2B	120	\$1.8B	95

1H 2022 Highest-Valued Private Companies²

RESILIENCE	R&D Tools	\$9.0B post
BostonGene	Dx Analytics	\$2.2B post
SYNTHEGO ¹	R&D Tools	\$1.2B post
iz.ai ¹	Dx Analytics	\$1.2B post
BillionToOne	Dx Tests	\$950M post
DNAnexus ¹	R&D Tools	\$620M post
Verana Health	Dx Analytics	\$550M post
tesis ¹	Dx Tests	\$536M post

Note: 1) These companies overlap with the healthtech sector and are included in both sets of sector-specific analyses. 2) Only includes private post-money values from publicly disclosed 2022 financings in PitchBook. Financing data include private financings by venture-backed companies in the US and Europe. Dates of financing rounds are subject to change based on add-on investments.
All data as of 6/30/2022.
Source: PitchBook and SVB proprietary data.

Dx/Tools Step-Ups: 2022

We calculated 57 step-ups¹ out of the 260 dx/tools financings in 1H 2022.

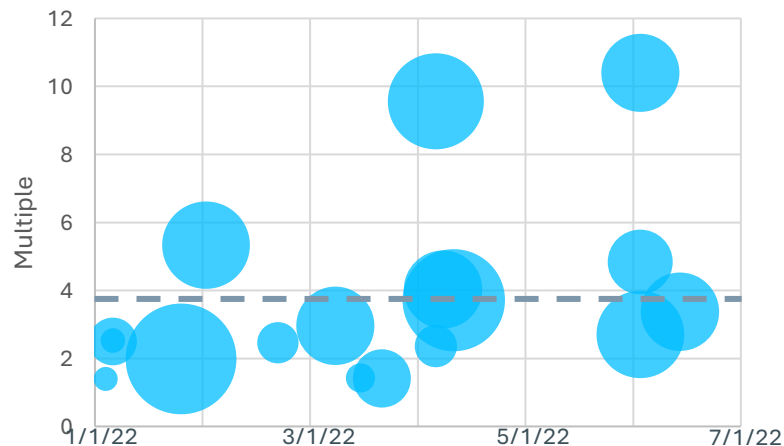
Dx/Tools had the second-best median multiple for early-stage step-ups (seed-A and A-B), trailing only healthtech. The largest step-ups were seed-A deals in Q2, showing that promising companies could raise significant up rounds despite an overall decline in venture investment. However overall A-B step-up activity was down in Q2 2022.

There were nine early-stage deals with 4x+ step-ups, led by Watchmaker Genomics (10.4x) and Enable Medicine (9.6x), both R&D tools companies using computational biology for drug discovery. Other large step-ups included PreOmics (6.3x), an R&D tools company that optimizes protein samples for analysis, and Genomic Insight (5.8x), a dx analytics company that interprets patient genomic data to treat oncology and rare diseases.

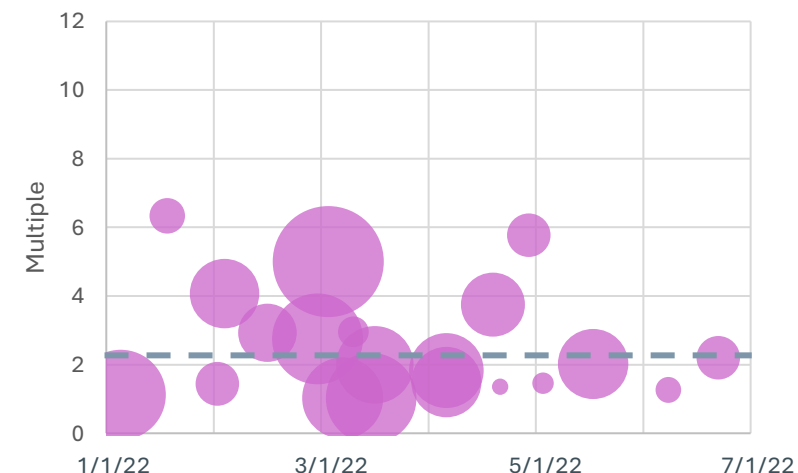
By contrast, later-stage dx/tools step-ups were all under 3x except for Lvis (3.2x), a dx analytics company focused on decoding neural networks to discover treatments for neurological diseases. Broken down by subsector, dx tests financings struggled the most, with a median step-up of just 1.2x, including one down round.

Step-Up	Median Multiple
Seed-A	3.2x
A-B	2.1x
B-C	1.5x
C-D+	1.7x

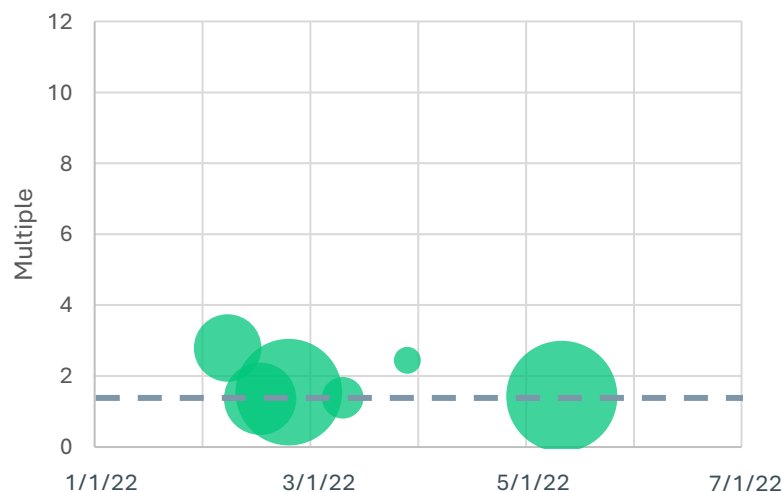
Dx/Tools Step-Ups Seed-Series A



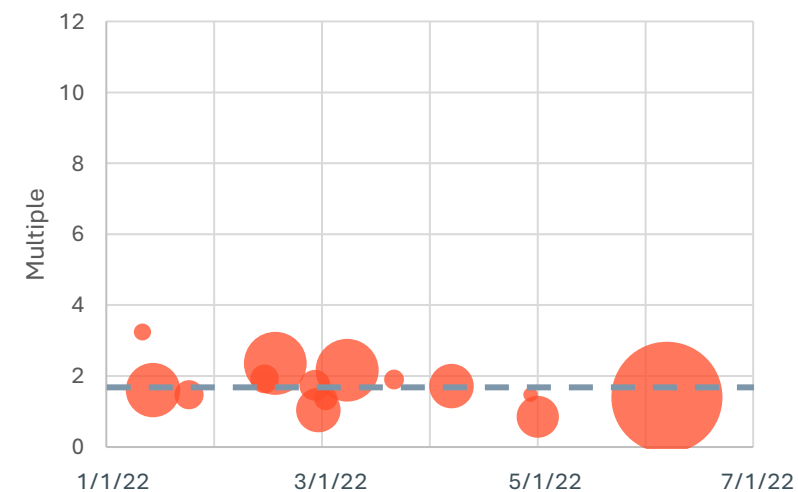
Dx/Tools Step-Ups Series A-B



Dx/Tools Step-Ups Series B-C



Dx/Tools Step-Ups Series C-D+




























Note: Size of bubble indicates size of 2022 financing.
 — Dotted line indicates median step-up.

Note: 1) Step-ups are calculated by dividing the company's 2022 financing pre-money valuation by its most recent financing post-money valuation if it occurred between 2019–2022. Only includes financing and valuation information from publicly disclosed financings in PitchBook. Dates of financing rounds are subject to change based on add-on investments. All data as of 6/30/2022. Source: PitchBook and SVB proprietary data.



Most Active¹ Dx/Tools Investors

Deal Count, US and Europe (2021–1H 2022)

Venture Activity Overall			Later-Stage/Crossover Activity Overall			Corporate Venture Activity Overall			R&D Tools			Dx Analytics		
14	11 2021 3 1H 2022		14	22 2021 8 1H 2022		14	12 2021 2 1H 2022		10	9 2021 1 1H 2022		5	3 2021 2 1H 2022	
10	5 2021 5 1H 2022		8	6 2021 2 1H 2022		5	1 2021 4 1H 2022		9	6 2021 3 1H 2022		4	2 2021 2 1H 2022	
9	7 2021 2 1H 2022		6	5 2021 1 1H 2022		5	3 2021 2 1H 2022		8	3 2021 5 1H 2022		4	4 2021 0 1H 2022	
7	6 2021 1 1H 2022		6	6 2021 0 1H 2022		5	3 2021 2 1H 2022		6	4 2021 2 1H 2022		4	3 2021 1 1H 2022	
6	5 2021 1 1H 2022		6	6 2021 0 1H 2022		4	3 2021 1 1H 2022		6	5 2021 1 1H 2022		3	2 2021 1 1H 2022	

Early Device Dollars Persist, Led by NIM and Drug Delivery

Early-stage investment into device companies continued at a robust pace in 1H 2022, even by 2021's standards. The sector saw a combined \$565M flow in, just shy of the sector's high-water mark from 2H 2021. This seems to indicate that while investors are more bearish on macro-level market conditions given recent volatility, they remain open to funding early-stage device companies.

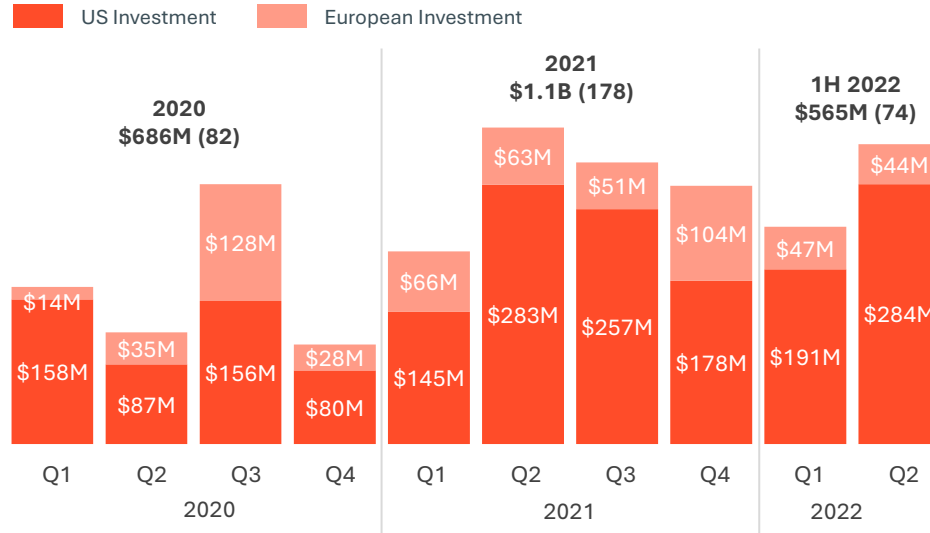
Interestingly, the median seed/series A pre-money valuation in 1H 2022 jumped to \$15M, a notable 50% increase from 2021's median, driven by larger platform plays and highly valued non-invasive monitoring (NIM) companies. However, the lag between private market valuations and public markets trends is closing, so we expect valuations to settle back to a median of \$10M by year end.

That being said, NIM companies continue to be a bright spot for the device sector, both on a valuation and check-size front. Strong telemedicine efforts during the COVID-19 pandemic have enabled more widespread patient care in non-hospital settings, and investors are backing early-stage technologies around this opportunity. Notably, Amada Senior Care and Miga Health, two startups focused on at-home monitoring solutions, both raised large early-stage rounds at pre-money valuations of \$40M and \$35M, respectively.

Conversely, cardiovascular startups have struggled to raise seed/series A dollars in 1H 2022. This is possibly because funding in this space was depleted by early and later-stage companies that raised rounds last year, likely spurred by surgical procedures returning to normal volumes.



Seed/Series A¹ Dollars and (Deals) US and Europe



Seed/Series A Dollars and Deals by Top Indications

Indications	2020		2021		1H 2022	
	Dollars	Deals	Dollars	Deals	Dollars	Deals
Non-Invasive Monitoring	\$130M	15	\$248M	47	\$109M	17
Drug Delivery	\$25M	6	\$63M	9	\$133M	4
Surgical	\$40M	11	\$47M	11	\$36M	12
Neurology	\$148M	8	\$83M	12	\$97M	6
Platform	\$11M	3	\$107M	9	\$35M	7
Imaging	\$76M	8	\$102M	17	\$21M	4
Cardiovascular	\$98M	7	\$64M	12	\$14M	2

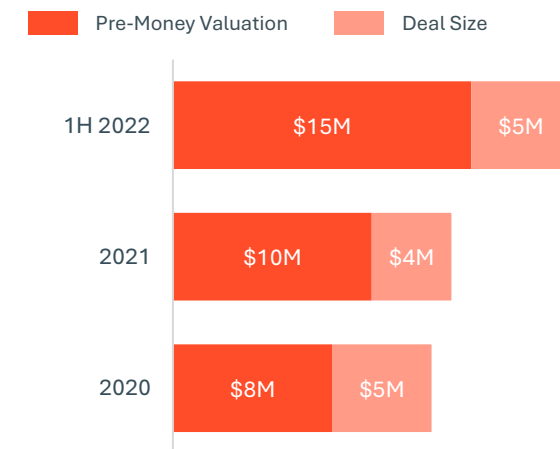
Note: 1) Seed/series A includes first-time investments from institutional or corporate venture investment in the US and Europe and any first-round investments equal to or greater than \$2M, regardless of investor. 2) These companies overlaps with the healthtech sector and are included in both sets of sector-specific analyses. Dates of financing rounds are subject to change based on add-on investments.

All data as of 6/30/2022.

Source: PitchBook and SVB proprietary data.

Median Seed/Series A Valuations

US and Europe



Largest 1H 2022 Seed/ Series A Deals



Large Device Deals Continue; Valuation Worries for Next Round

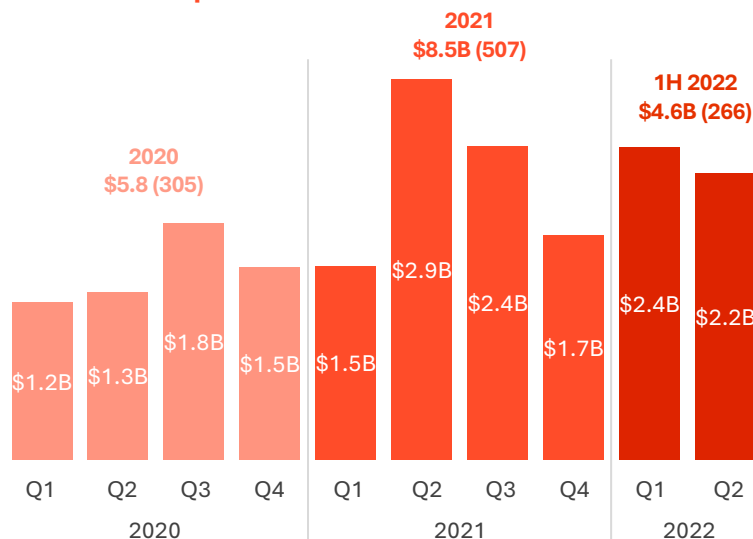
This year, later-stage VC investments continued to drive robust activity despite public market headwinds. In 1H 2022, \$4.6B of capital was deployed across 266 device deals, ahead of 2021's record pace for both deals and dollars. This year, some broadly focused life sciences investors have added new device startups to broaden their portfolios away from just higher-risk biopharma companies, given biopharma's poor post-IPO performance in recent quarters.

While imaging deals and dollars declined in 1H 2022, NIM companies continued to dominate later-stage device deal flow. On the heels of strong M&A in NIM, private unicorns in this indication flourished in 1H 2022. Notably, Sequoia-backed Athelas, a NIM startup developing a device for at-home immune system monitoring, raised \$59M at a \$1.5B pre-money valuation. Also, SoftBank-backed Biofourmis, using AI and wearables to remotely monitor patients, raised a \$300M series D at a \$1B pre-money.

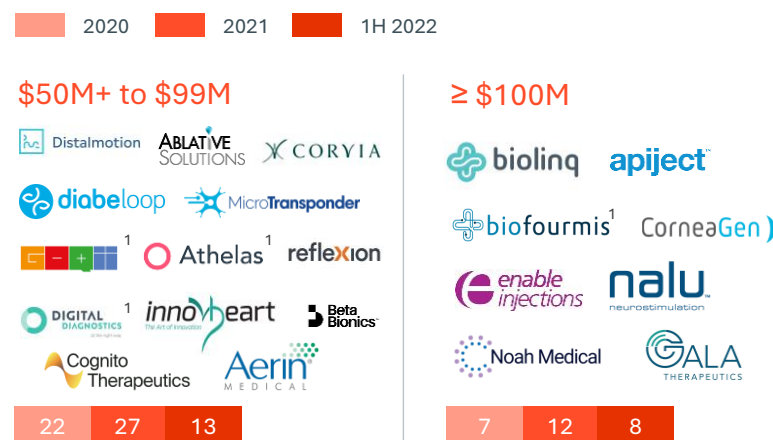
However, companies that raised later-stage rounds over the past few years will need to flush out a go-forward private financing plan. From 2019 to 2021, 39 device companies raised \$75M+ rounds, with 33 still private. Many of these companies have post-money valuations in excess of \$250M. With the pullback in IPOs and public market comps, we will closely monitor whether they can grow into their lofty valuations with another private round likely looming.



Total Dollars and (Deals) US and Europe



Notable 1H 2022 Deals



Dollars and Deals by Subsectors US and Europe

	2020		2021		1H 2022	
Indications	Dollars	Deals	Dollars	Deals	Dollars	Deals
Non-Invasive Monitoring	\$792M	41	\$862M	97	\$1.1B	52
Imaging	\$621M	35	\$1.1B	52	\$208M	18
Drug Delivery	\$251M	22	\$634M	38	\$490M	14
Surgical	\$207M	24	\$1.1B	34	\$467M	33
Neurology	\$590M	25	\$815M	37	\$330M	18
Cardiovascular	\$744M	29	\$624M	37	\$382M	17
Vascular	\$346M	22	\$529M	28	\$320M	21

1H 2022 Highest-Valued Private Companies²

Athelas	Non-Invasive Monitoring	\$1.6B post
biofourmis ¹	Non-Invasive Monitoring	\$1.3B post
Distalmotion	Surgical	\$756M post
Noah Medical	Surgical	\$750M post
reflexion	Oncology	\$750M post
CERAPEDICS	Orthopedic	\$700M post
diabeloop	Metabolic	\$342M post
CASANA ¹	Non-Invasive Monitoring	\$330M post

Note: 1) These companies overlap with the healthtech sector and are included in both sets of sector-specific analyses. 2) Only includes private post-money values from publicly disclosed 2022 financings in PitchBook. Financing data include private financings by venture-backed companies in the US and Europe. Dates of financing rounds are subject to change based on add-on investments.

All data as of 6/30/2022.

Source: PitchBook and SVB proprietary data.

Device Step-Ups: 2022

We calculated 55 step-ups¹ out of the 266 device financings in 1H 2022. When compared to other sectors, device had the lowest median step-ups.

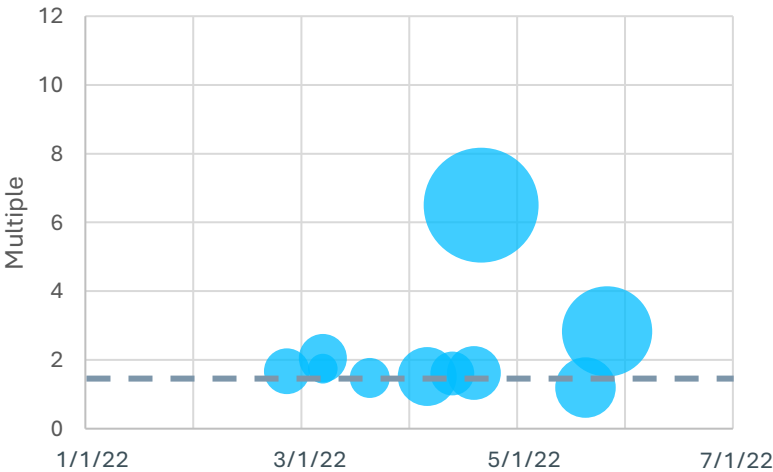
For early-stage deals, the top step-up was by Casana (10.2x), a NIM company with a smart toilet seat to monitor cardiac health. Three other deals received 3x+ step-ups: Gala Therapeutics (6.2x), which is developing devices for pulmonary disease, Crossliner (4.2x), focused on a guide to aid cardiac catheterization procedures, and Koya Medical (3.3x), with a wearable compression system for lymphedema and venous diseases.

Later-stage deals yielded only four step-ups over 3x and none above 4.7x. Two of the biggest step-ups were from NIM companies Athelas (4.7x), a home care company leveraging sensor technology, and Podimetrics (3.2x), focused on preventing diabetic foot complications. The other two were Diabeloop (4.7x), which is using AI paired with a glucose monitor to automate diabetes treatment, and CardioFocus (4.1x), focused on developing devices to advance cardiac ablation treatment. However, there were also seven down rounds, more than any other sector.

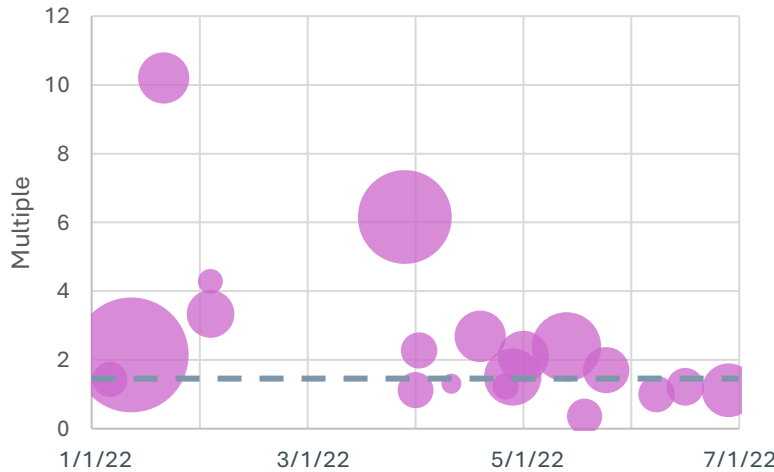
Step-Up	Median Multiple
Seed-A	1.6x
A-B	1.7x
B-C	1.4x
C-D+	1.3x



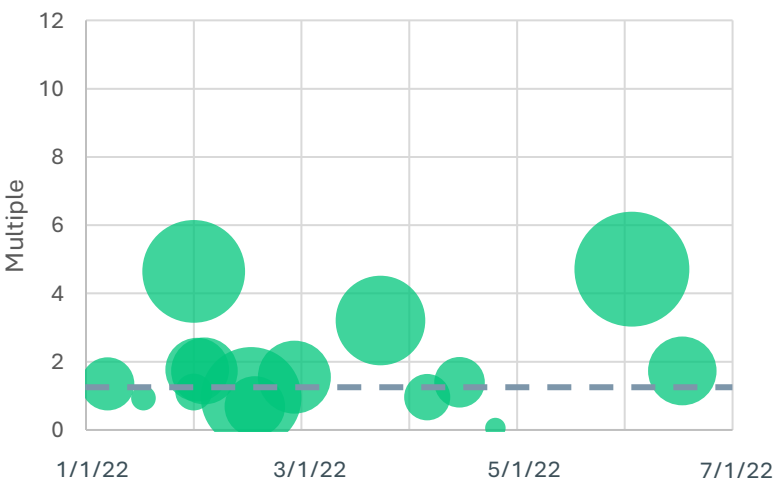
Device Step-Ups Seed-Series A



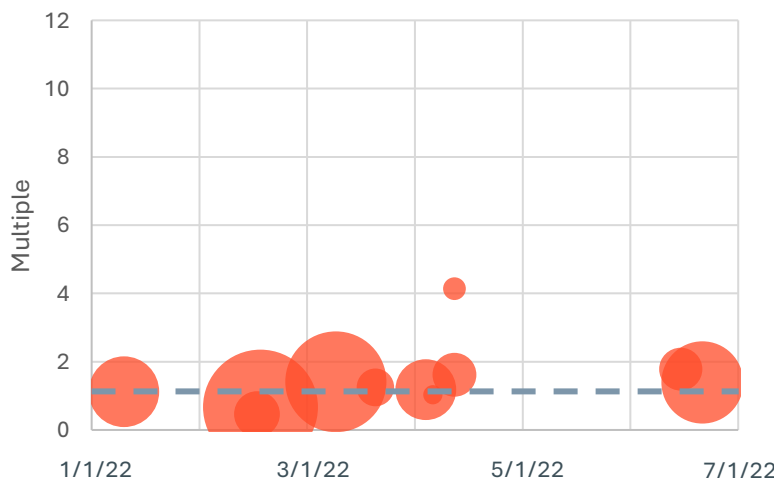
Device Step-Ups Series A-B



Device Step-Ups Series B-C



Device Step-Ups Series C-D







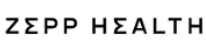







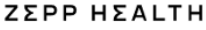












Note: Size of bubble indicates size of 2022 financing.
— Dotted line indicates median step-up.

Note: 1) Step-ups are calculated by dividing the company's 2022 financing pre-money valuation by its most recent financing post-money valuation if it occurred between 2019–2022. Only includes financing and valuation information from publicly disclosed financings in PitchBook. Dates of financing rounds are subject to change based on add-on investments. All data as of 6/30/2022. Source: PitchBook and SVB proprietary data.



Most Active¹ Device Investors

Deal Count, US and Europe (2021–1H 2022)

Venture Activity Overall			Later-Stage/Crossover Activity Overall			Corporate Venture Activity Overall			Non-Invasive Monitoring			Imaging		
7	6 2021 1 1H 2022	Gaingels 	4	4 2021 0 1H 2022	Sea Purity Investments 	4	4 2021 0 1H 2022	G/ 	4	3 2021 0 1H 2022	band OF ANGELS 	3	3 2021 0 1H 2022	ZEPPE HEALTH 
7	4 2021 3 1H 2022	ALUMNI VENTURES GROUP 	4	3 2021 1 1H 2022	BGF 	4	4 2021 0 1H 2022	MAYO CLINIC 	4	3 2021 1 1H 2022	SV HEALTH INVESTORS 	2	2 2021 0 1H 2022	MINT VENTURE PARTNERS 
6	6 2021 0 1H 2022	SHANGBAY CAPITAL 	4	3 2021 1 1H 2022	KCK medtech 	3	3 2021 0 1H 2022	ZEPPE HEALTH 	2	2 2021 0 1H 2022	8VC 	2	2 2021 0 1H 2022	WARF Wisconsin Alumni Research Foundation 
5	3 2021 2 1H 2022	SV HEALTH INVESTORS 	4	3 2021 1 1H 2022	SOLEUS CAPITAL 	3	2 2021 1 1H 2022	J+J INNOVATION 	2	1 2021 1 1H 2022	OSF HEALTHCARE 	2	1 2021 1 1H 2022	ALUMNI VENTURES GROUP 
4	4 2021 0 1H 2022	RIVER CITIES CAPITAL ² 	3	3 2021 0 1H 2022	SANDS CAPITAL 	2	2 2021 0 1H 2022	LabCorp ² 	2	1 2021 1 1H 2022	GENOA VENTURES ² 	2	1 2021 1 1H 2022	SHANGBAY CAPITAL ² 



Computational Biology Investments

US and Europe



Early-Stage Computational Biology¹ Deals Continue at Record Valuations

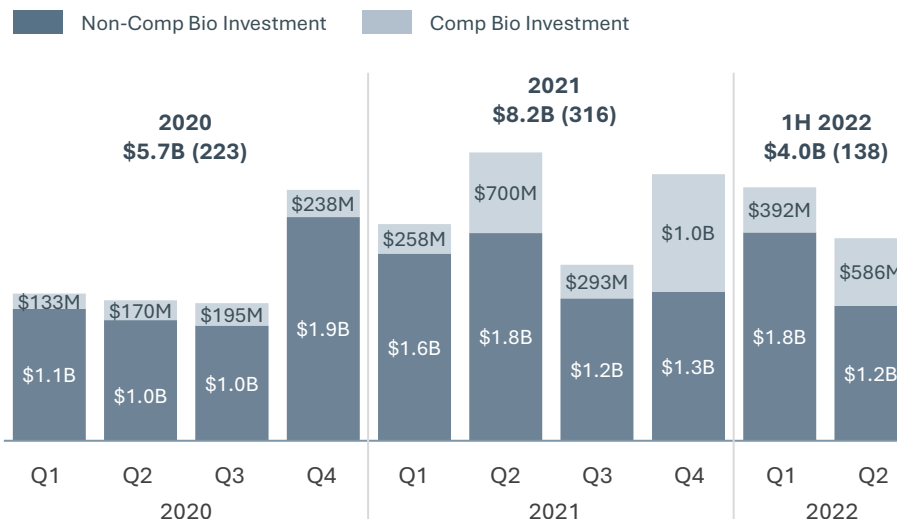
At the end of last year, early-stage investors shifted their focus toward computational biology (comp bio) companies, which received a striking 43% of all biopharma/R&D tools seed/series A dollars in Q4 2021. This momentum led into a strong 1H 2022, where comp bio dollars (\$978M; 25% of total) passed full year 2020 dollars (\$736M; 13%) and are on pace to match 2021 dollars (\$2.3B; 28%).

Comp bio seed/series A deals hit record valuations in 1H 2022. This was driven by big biopharma deals, mostly in platform technologies (75% of \$25M+ deals), as investors continued to focus on early-stage comp bio companies developing drugs across multiple indications. Overall, many investors also increased seed/series A deal sizes in 1H 2022 to provide companies with enough cash to get through 2023 and accomplish major milestones that might allow a big step-up in their next round.

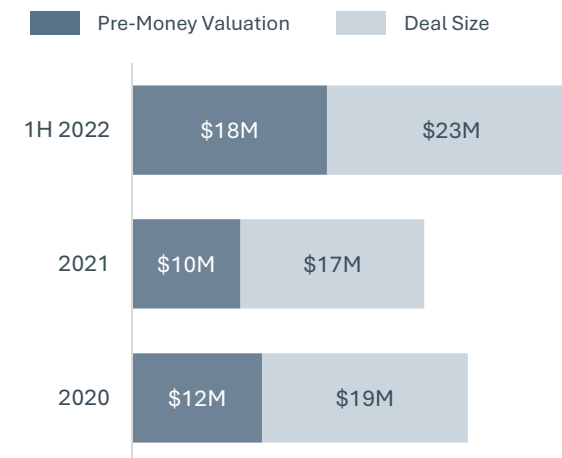
When looking at the top applications for comp bio tools, 1H 2022 already shot past full year 2021 dollars invested in companies focused on drug optimization and structure analysis (led by Seismic Therapeutic's \$101M round) and genomic and single-cell analysis (led by Retro Biosciences' \$180M round). Though tech-focused firms historically dominated this space, we saw a recent influx of biopharma-focused VC firms, which comprised six of the top nine most active early-stage comp bio investors in 1H 2022.



Seed/Series A² Dollars and (Deals) US and Europe



Median Comp Bio Seed/Series A Valuations US and Europe



1H 2022 Comp Bio Seed/Series A by Top Applications

Applications	2020		2021		1H 2022	
	Dollars	Deals	Dollars	Deals	Dollars	Deals
Drug Discovery	\$225M	18	\$894M	39	\$487M	15
Drug Optimization	\$337M	11	\$282M	10	\$421M	11
Genomic Analysis	\$142M	6	\$537M	15	\$596M	11
Target Discovery	\$215M	8	\$234M	9	\$115M	2
Proteomic Analysis	\$81M	1	\$249M	7	\$90M	2
Structure Analysis	\$150M	4	\$241M	6	\$302M	6
Single-Cell Analysis	\$74M	2	\$265M	13	\$310M	6
Biomarker Analysis	\$8M	2	\$132M	8	\$55M	2

Most Active Comp Bio Investors in 1H 2022 Seed/Series A Deals

6	OrbiMed Healthcare Fund Management
4	RACAPITAL SV HEALTH INVESTORS SAMSARA BIOCAPITAL
3	CATALIO CAPITAL MANAGEMENT khosla ventures MERCK OMEGA FUNDS VIDA ventures

Note: 1) To qualify as a comp bio company in this analysis, per review of their website, the company must (1) focus on drug discovery or development (biopharma/R&D tools), (2) apply novel computational tools to gain biological or chemical insights, (3) have the ability or potential for platform creation and (4) have a team with computational experience. 2) For this comp bio analysis, seed/series A includes first-time investments in biopharma/R&D tools equal to or greater than \$2.5M, regardless of investor. Dates of financing rounds are subject to change based on add-on investments.

All data as of 6/30/2022

Source: PitchBook and SVB proprietary data.

Computational Biology¹ Step-Ups: 2022

We calculated 35 comp bio and 65 non-comp bio companies with step-ups² out of the 491 biopharma/R&D tools financings in 1H 2022.

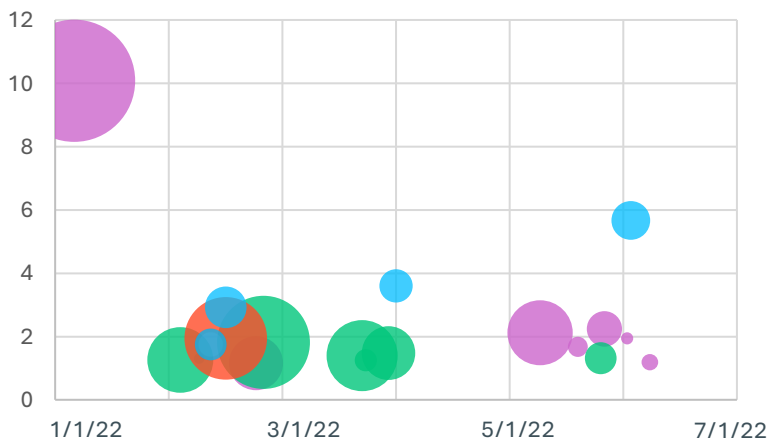
In 1H 2022, the top comp bio step-ups were all early-stage (five seed-A; three A-B) and primarily concentrated toward mid year (two in Q1; six in Q2). For seed-A step-ups, comp bio companies achieved an impressive median multiple of 4.4x, beating their non-comp bio counterparts by 76%. However, later-stage step-ups from comp bio companies were more modest (median multiples ranging from 1.4x-2.3x), closely matching those from non-comp bio companies (1.4-1.9x).

Of the comp bio companies that raised rounds with disclosed valuations this year, eight reached \$500M+ post-money valuations (all in Q1 2022), including five biopharma companies (four platform; one oncology) with B-C deals and two R&D tools companies with C-D+ deals. Notably, the only company with both a top step-up and post-money was Eikon Therapeutics, which raised a huge \$518M series B for their drug development platform leveraging super-resolution microscopy and proprietary software.

Step-Up	Comp Bio Median Multiple	Non-Comp Bio Median Multiple
Seed-A	4.4x	2.5x
A-B	2.1x	1.9x
B-C	1.4x	1.4x
C-D+	2.3x	1.6x

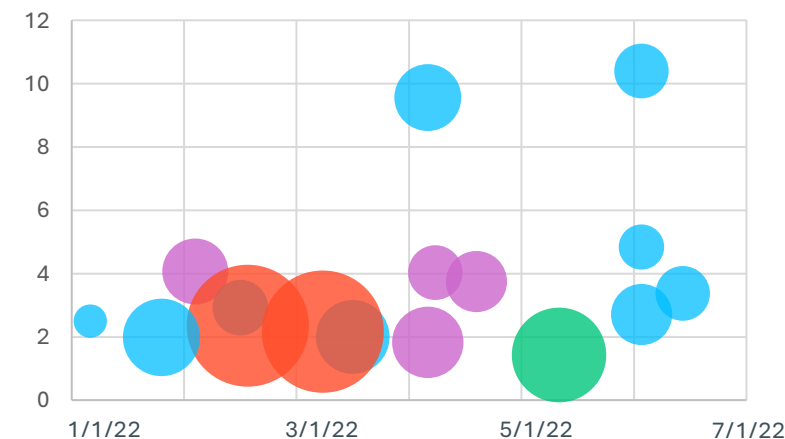
Comp Bio (Biopharma) Step-Ups

Size of bubble indicates size of 2022 financing



Comp Bio (R&D Tools) Step-Ups

Size of bubble indicates size of 2022 financing



1H 2022 Comp Bio: Top Step-Ups

	(Sub) Sector	Multiple	Deal Date	Deal Size	Post-Money
	R&D Tools	10.4x	6/2/22	\$40M	\$230M
	Biopharma	10.1x	1/6/22	\$518M	\$3.0B
	R&D Tools	9.6x	4/6/22	\$60M	\$190M
	Biopharma	5.7x	6/2/22	\$52M	\$222M
	R&D Tools	4.8x	6/2/22	\$28M	\$148M
	R&D Tools	4.1x	2/3/22	\$58M	\$154M
	R&D Tools	4.0x	4/8/22	\$40M	\$67M
	R&D Tools	3.8x	4/19/22	\$50M	\$200M

Step-Up: Seed-A A-B B-C C-D+

1H 2022 Comp Bio: Top Post-Money Values

	(Sub) Sector	Multiple	Deal Date	Deal Size	Post-Money
	Biopharma	10.1x	1/6/22	\$518M	\$3.0B
	Biopharma	1.8x	2/25/22	\$300M	\$1.7B
	R&D Tools	2.4x	2/17/22	\$200M	\$1.2B
	Biopharma	2.0x	2/15/22	\$236M	\$1.1B
	R&D Tools	2.2x	3/9/22	\$20M	\$620M
	Biopharma	1.4x	3/23/22	\$175M	\$525M
	Biopharma	1.3x	2/3/22	\$150M	\$500M
	Biopharma	1.5x	3/30/22	\$100M	\$500M

Note: 1) To qualify as a comp bio company in this analysis, per review of their website, the company must (1) focus on drug discovery or development (biopharma/R&D tools), (2) apply novel computational tools to gain biological or chemical insights, (3) have the ability or potential for platform creation and (4) have a team with computational experience. 2) Step-ups calculated as pre-money of most recent deal divided by post-money of last deal. Step-ups included for companies with valuations in PitchBook. Dates of financing rounds are subject to change based on add-on investments.

All data as of 6/30/2022.

Source: PitchBook and SVB proprietary data.



Healthcare M&A and IPO Activity

Global



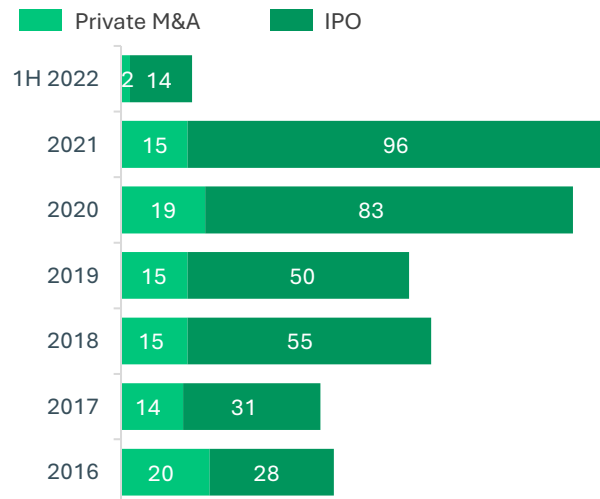
Exits Decline as Sector Faces Valuation Crunch

After four successive years with 50+ venture-backed biopharma IPOs, there were only 14 in 1H 2022. M&A declined drastically as well, with only two private deals.

Many IPOs from the classes of 2019 and 2020 boasted strong performance through the end of 2020, with huge initial price increases followed by additional market cap accretion from successful milestones. The dramatic pullback in public market valuations started around Q3 2021, making it more difficult to go public and providing already public companies with limited upside (and sometimes inexplicable downside) based on what used to be value-creation milestones.

Compared to 2021, IPOs in 1H 2022 had smaller median pre-money valuations (-10%) and dollars raised (-9%). Nearly half of these companies went public below their last private valuation (median 1.0x step-up from mezz post to pre-money IPO). Though the majority of these IPOs were trading down by the end of 1H 2022 (nine negative, five positive), their average performance was still positive, bolstered by IPOs from Belite (+419%), Arcellx (+21%) and Cincor (+18%). Other companies, like Hillevax and PepGen, are trading down after their IPO but raised \$200M+, providing an extended cash runway to push clinical trials forward and earn market cap back.

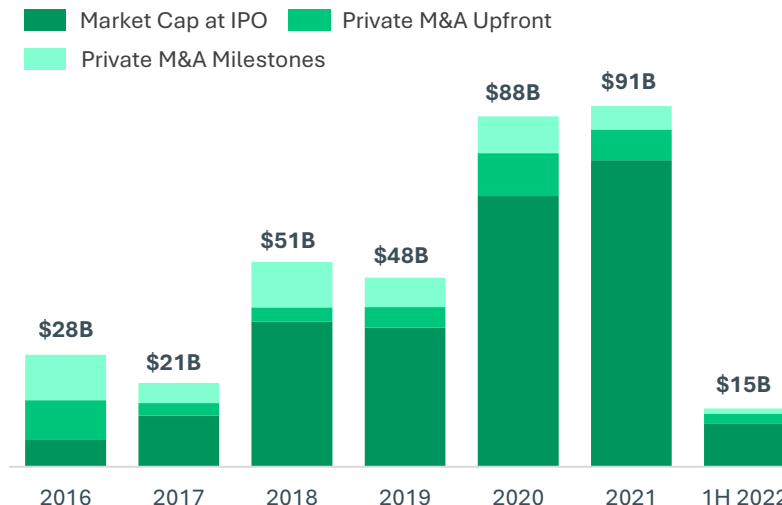
Biopharma Private M&A Deals and IPOs by Year



1H 2022 Largest US IPOs by IPO Market Cap¹

	AMYLYX	CINCOR	HILLEVAX
SVB Indication	Platform	Oncology	Anti-Infective
IPO Price (Date)	\$19 (1/7/22)	\$16 (1/7/22)	\$17 (4/29/22)
Market Cap at IPO	\$1.1B	\$584M	\$568M
Price 6/30/22	\$19.26	\$18.84	\$10.93
Price +/-	1%	18%	-36%
Market Cap 6/30/22	\$1.1B	\$710M	\$340M

Biopharma Exit Values by Year



IPO Performance by IPO Year

	IPO Cohort Year			
	2019	2020	2021	1H 2022
Number of IPOs	50	83	96	14
Median Pre-\$/Median Dollars Raised	\$337M/ \$85M	\$495M/ \$200M	\$428M/ \$133M	\$385M/ \$120M
Median/Average 2019 Performance	26% / 56%			
Median/Average 2020 Performance	31% / 91%	74% / 91%		
Median/Average 2021 Performance	-6% / 76%	-12% / 13%	-27% / -18%	
Median/Average 1H 2022 Performance	-54% / 8%	-61% / -39%	-66% / -54%	-14% / 11%

Note: M&A defined as all private, global, venture-backed M&A deals with upfront payments of at least \$75M. IPO defined as all private, global, venture-backed IPOs raising at least \$25M in proceeds. Market cap at IPO used to estimate value of public companies. Public market performance metrics calculated as of 6/30/22.

Public market performance metrics calculated as of 6/30/2022.

Source: PitchBook, Capital IQ and SVB proprietary data.



M&A Activity Trends to Public Market; Private M&A Multiples Compress

We predicted that 2022 M&A would be robust but dominated by large acquirers targeting recently public companies trading at depressed valuations. We noted that these companies may be more open to M&A than private deals, which may not fit a venture return profile of 3x-4x given their inflated static valuations.

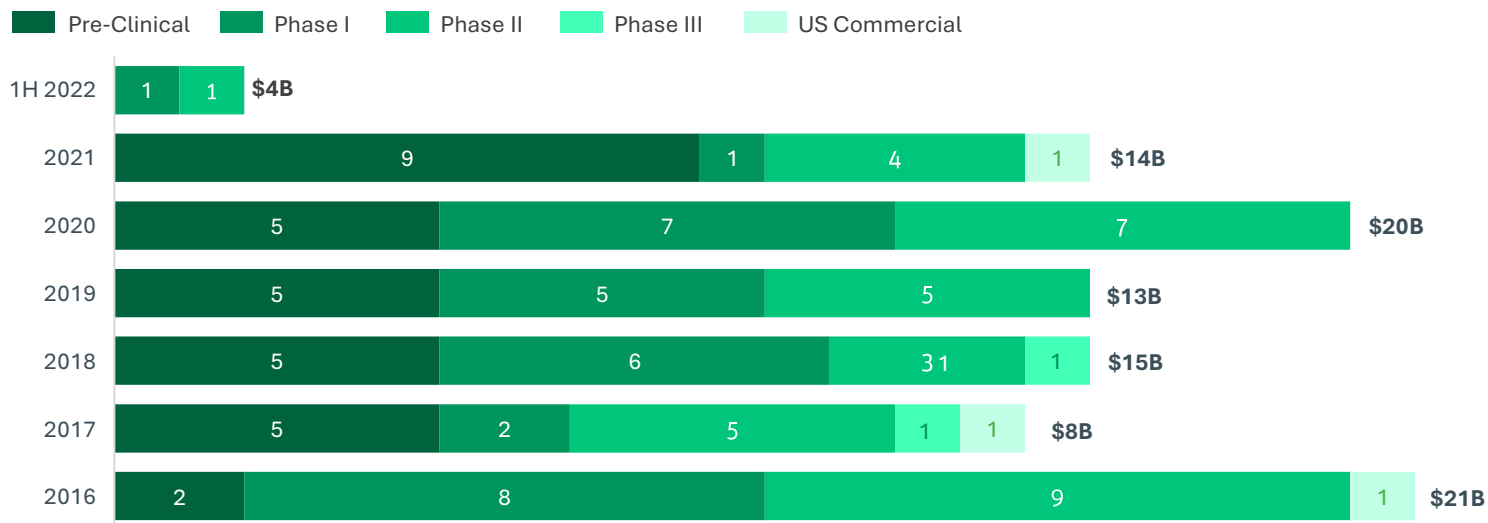
That prediction largely played out, as public acquirers hunted later-stage public companies. Some notable 1H 2022 deals in this category included acquisitions of phase II Turning Point (2019 IPO) by BMS for \$4.1B, phase III Sierra Oncology (2015 IPO) by GSK for \$1.9B, commercial Biohaven (2017 IPO) by Pfizer for \$11.6B, as well as phase I Checkmate (2020 IPO) by Regeneron for \$250M.

Both private M&As in 1H 2022 were anti-infective companies. Affinivax, which is developing vaccines with their lead candidate in phase II, was acquired by GSK for \$2.1B upfront and \$1.2B in milestones. This deal was one of the top five largest private biopharma exits since 2005. However, Affinivax raised \$459M in total capital and the last private post-money valuation was \$1.1B in mid 2021, highlighting later-stage investors reduced M&A multiples in a down market.

The other anti-infective deal was ReViral, a phase II company focused on treating respiratory syncytial virus, which was acquired by Pfizer for up to \$525M, including milestones. Similarly, ReViral had a smaller return multiple for later-stage investors, raising \$126M in total capital with its last post-money valuation at \$203M.



Biopharma Private M&A Deals by Stage¹



Biopharma M&A Deal Median Values by Year

Year	Upfront (\$M)	Total Deal (\$M)	Years to Exit
1H 2022	N/A ²	\$1,900	7.1
2021	\$370	\$525	5.2
2020	\$300	\$770	4.0
2019	\$250	\$600	2.7
2018	\$140	\$480	3.1
2017	\$171	\$461	3.5
2016	\$200	\$600	5.5

Note: 1) Stage defined as last completed clinical trial prior to M&A announcement. M&A defined as all private, venture-backed M&A deals with at least \$75M upfront, globally. 2) No upfront multiple due to undisclosed information in 1H 2022.

Public market performance metrics calculated as of 6/30/2022.

Source: PitchBook, and SVB proprietary data.

1H 2022 M&A Deals



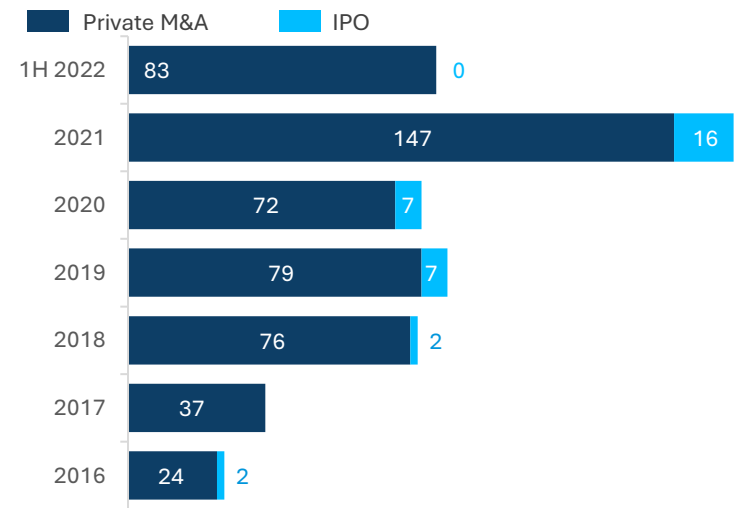
HealthTech IPOs Halt; Uncertain M&A Pricing

For the first time in five years, 2022 had no VC-backed healthtech IPOs in the first half. Of the three largest IPOs in 2021, two remain significantly down from their IPO price (insurance companies Oscar Health, down 89% and Bright Health, down 90%) while Doximity, a provider operations company, is the notable bright spot, up 34%. As uncertainty persists in the public market, we expect IPO activity to remain muted as public markets reward sustainable metrics and profitability vs. a growth-at-all-cost approach.

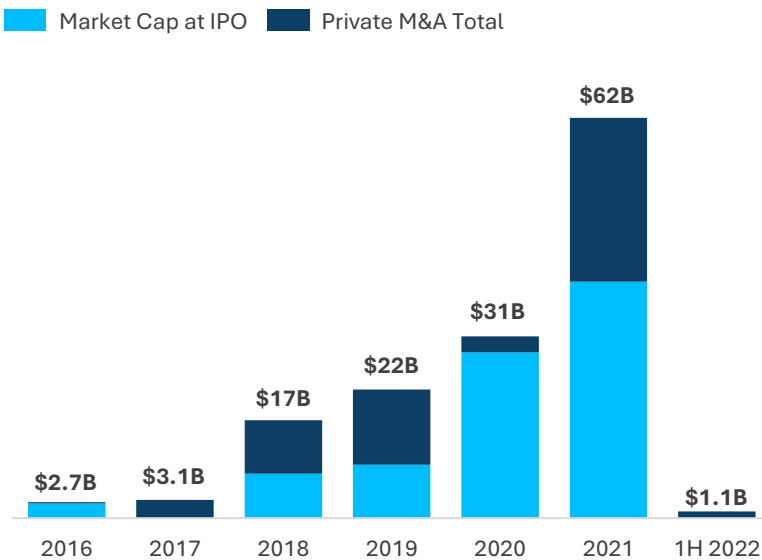
As markets correct from 2021 levels, we noted only five publicly-disclosed \$50M+ deals in 1H 2022 vs. 33 in 2021. Median acquisition prices were significantly down, hitting lows not seen since 2017. Acquirers struggled with valuation disconnect, driven by the big step-ups and resulting lofty post money valuations we saw with regularity in 2020 and 2021. Deal pricing will likely remain unsettled as private valuations correct. This is playing out in 1H 2022 as median later-stage post-money valuations (\$100M) are already down 17% from their peak in Q4 2021 (\$121M), while public market healthtech market caps, both recent IPOs and larger acquirers, drop to pre-record 2021 levels.

We believe acquirers will be more selective in 2H 2022 and look to add companies that will enhance their current offerings, provide a different sales channel or add talent. Additionally, acquirers may be delaying M&A plans, waiting to see how general market sentiment shakes out and how potential targets fare in terms of managing cash burn and path to profitability.

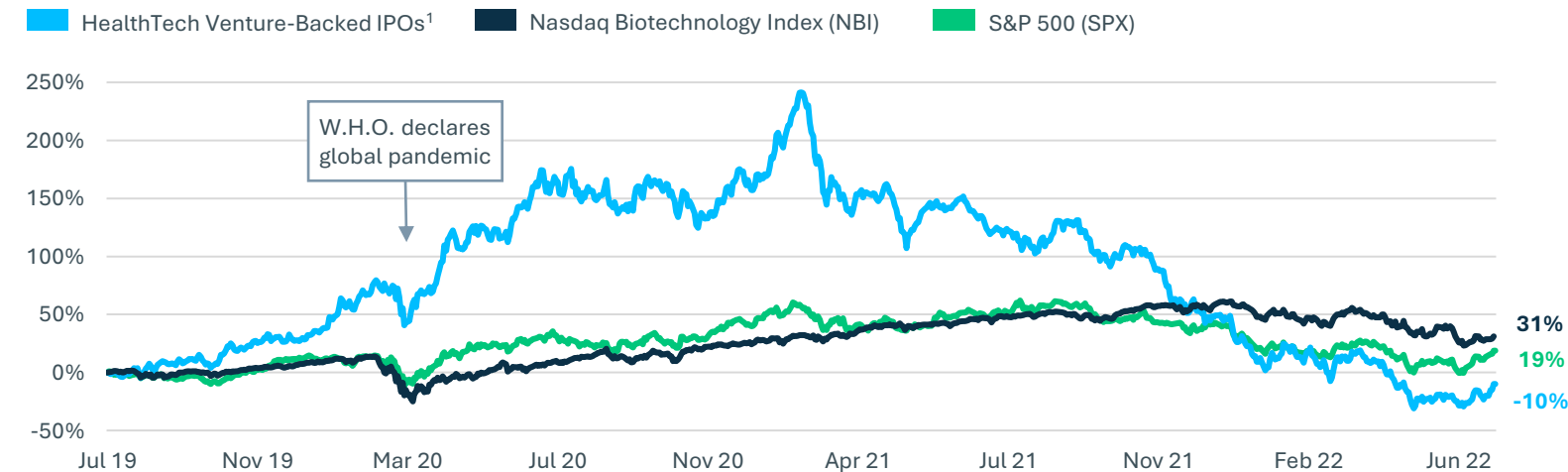
HealthTech Private M&A Deals and IPOs by Year



HealthTech Exit Values by Year



Post-IPO Performance



Note:1) HealthTech VC- backed IPOs from 1/1/15 to 6/30/22. Index performance is weighted equally. Public market performance metrics calculated as of 6/30/2022. M&A defined as all private, venture-backed M&A deals with no upfront limitations, globally. IPO defined as all private, venture-backed IPOs raising at least \$25M in proceeds, globally.

Source: PitchBook, Capital IQ, SVB proprietary data and [SVB HealthTech Report](#).



Uptick in M&A Volume; Acquisition Prices Down

M&A deal activity in healthtech started strong in Q1 but tapered off in Q2 2022, falling 36% quarter over quarter. We expect M&A volume to be slightly down in 2H 2022, with yearly totals behind 2021's record pace.

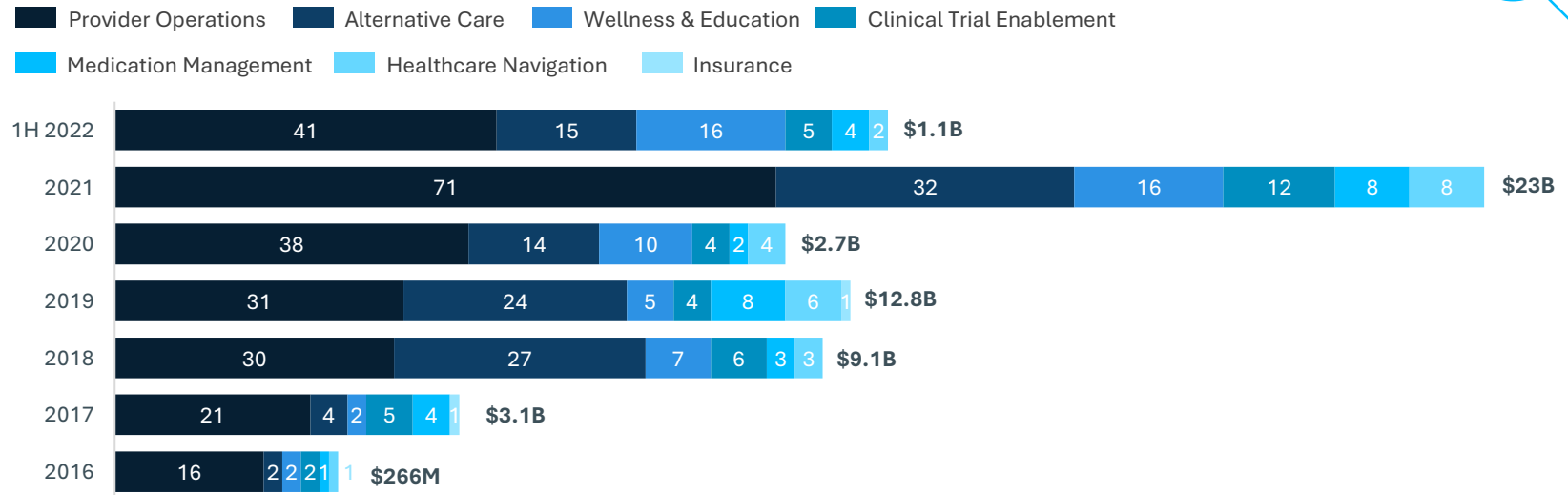
Public healthcare companies lead M&A as acquisitions by PE firms have continued to decline since early 2021. We do expect well-positioned private healthtech companies, flush with cash on their balance sheets from 2021 mammoth rounds, to be opportunistic acquirers in the space in 2H 2022 and 2023.

Various industry factors lead us to believe M&A will remain steady. Investors, corporations seeking inorganic growth, and care delivery organizations recognize that care delivery cannot return to pre-pandemic standards. Scale has been a driver of success as companies seek to gain control across the care continuum. Healthcare acquirers can leverage younger companies' technology to build stronger relationships with providers and provide better navigation for patients.

While there was activity for public companies that were previously venture-backed (Castlight Health, MindBeacon) or venture-funded by PIPEs³ (Nuance Communications), there were only five publicly disclosed private healthtech M&A in 1H 2022 over \$50M. M&A in 2021 boasted strong multiples for many of the disclosed deals, however in 1H 2022 public market corrections have impacted return multiples for investors, as two of the five (Analytic Wizards and PlusDental) seemed to have larger private post-money valuations than exit value.



HealthTech Private M&A Deals by Subsectors



HealthTech M&A Deal Median Values by Year

Year	Total Deal (\$M)	Years to Exit
1H 2022	\$24	4.7
2021	\$107	5.0
2020	\$93	6.0
2019	\$41	5.8
2018	\$100	4.9
2017	\$41	3.6
2016	\$10	4.2

Note: M&A defined as all private, venture-backed M&A deals with no upfront limitations, globally. Does not include acquisitions of public targets. All data as of 6/30/2022.

Source: PitchBook, CapitalIQ, SVB proprietary data and [SVB HealthTech Report](#).

1H 2022 Notable M&A Deals

	Alternative Care
	Wellness & Education
	Provider Operations
	Healthcare Navigation

Exits Slow as Previous IPOs Give Back Gains

After record M&A and IPO activity in 2021, exits reduced to just four each in 1H 2022. All IPOs were on the Shanghai Index, as US markets appear to be closed to venture-backed public offerings.

The IPO class of 2019 was led by two top-performing Shanghai R&D tools companies Pharmaron Beijing (up 1147%) and Shanghai Medicilon (up 758%), which helped boost the average post-IPO performance for this class to +181% through 1H 2022. However, over the past 12 months we noted significant market cap erosion from Nasdaq-listed 2019 R&D tools IPOs Personalis, Adaptive Biotechnologies and 10x Genomics.

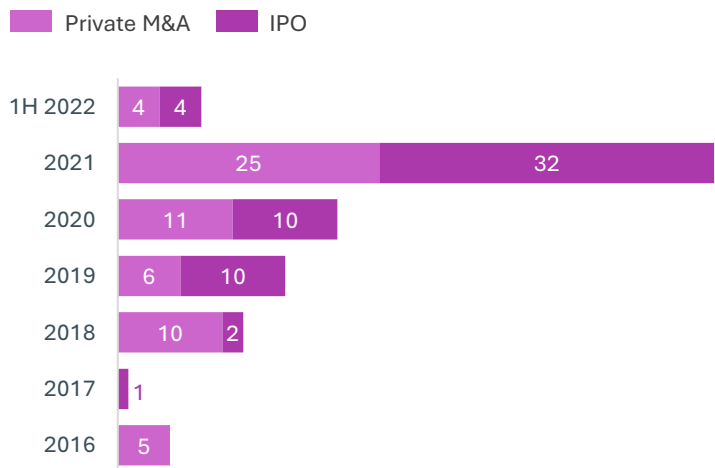
The IPO class of 2020 had strong performance for the first year, but by 1H 2022 there were only two IPOs left in positive territory: R&D tools companies Schrodinger (up 55%) and 908 Devices (up 3%). On the other hand, Burning Rock and Genetron (dx tests), and Biodesix and Progenity (dx analytics) have dropped more than 80% from their IPO price.

The IPO class of 2021 was hit the hardest by the end of 1H 2022. Of the 32 IPOs, there were only four in positive territory and 17 were down more than 70% (including seven dx tests companies).

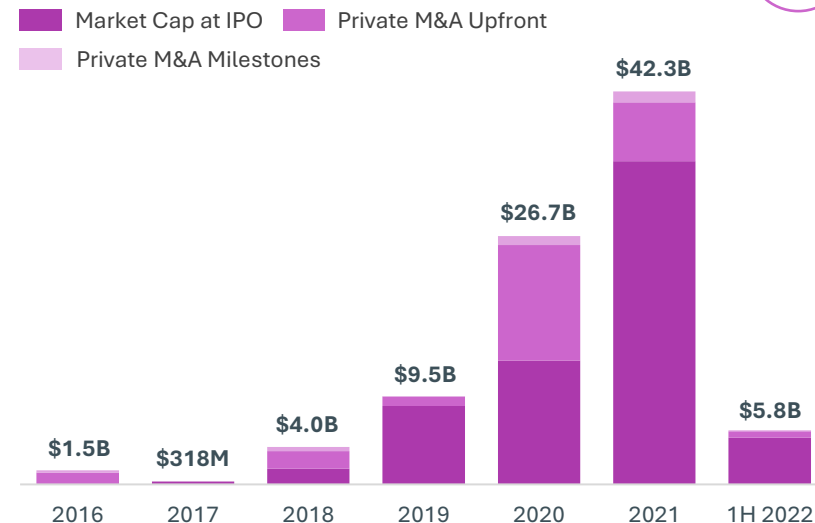
By subsector, since 2019 we saw poor average post-IPO performance for IPOs in dx analytics (down 75%) and dx tests (down 50%) subsectors, while R&D tools, surprisingly, remained positive at +36%.



Dx/Tools Private M&A Deals & IPOs by Year



Dx/Tools Exit Values by Year



1H 2022 Largest IPOs by IPO Market Cap

SVB Subsector	R&D Tools	R&D Tools	R&D Tools	Dx Tests
IPO Price (Date)	\$5.48 (1/18/22)	\$3.36 (4/25/22)	\$2.08 (3/22/22)	\$10.84 (3/30/22)
Market Cap at IPO	\$2.1B	\$1.5B	\$1.0B	\$458M
Price 6/30/22	\$2.53	\$4.37	\$4.07	\$8.09
Price +/-	-54%	30%	96%	-26%
Market Cap 6/30/22	\$1.0B	\$1.8B	\$2.0B	\$323M

IPO Performance by IPO Year

	IPO Cohort Year			
	2019	2020	2021	1H 2022
Number of IPOs	10	10	32	4
Median Pre-\$/Median Dollars Raised	\$247M / \$69M	\$888M / \$177M	\$641M / \$156M	\$1,047M / \$193M
Median/Average 2019 Performance	46% / 66%			
Median/Average 2020 Performance	153% / 211%	80% / 119%		
Median/Average 2021 Performance	145% / 274%	-23% / 13%	-28% / -1%	
Median/Average 1H 2022 Performance	-6% / 181%	-65% / -49%	-77% / -46%	2% / 12%

Note: M&A defined as all private, venture-backed M&A deals with at least \$50M upfront, globally. IPO defined as all private, venture-backed IPOs raising at least \$25M in proceeds, globally. Market cap at IPO used to estimate value of public companies. Public market performance metrics calculated as of 6/30/22.

Source: PitchBook, Capital IQ, SVB proprietary data.

M&A Highlights Fast, High Multiple Exits; Overall Exit Pace Drops

Private venture-backed dx/tools companies experienced lots of positive M&A activity in 2020 and 2021, with three \$1B+ total deal value exits in 2020 (GRAIL, ArcherDX and Thrive Earlier Detection) and a record 25 acquisitions in 2021.

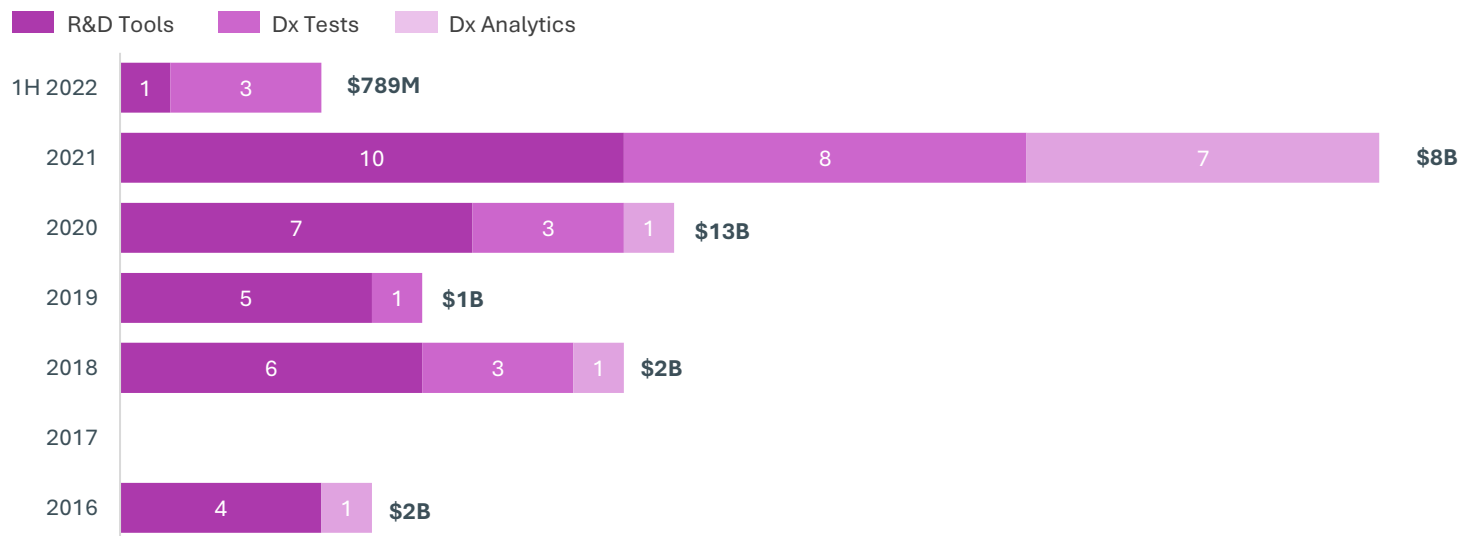
This year, M&A deals have already slowed significantly (four deals in 1H 2022 vs. 16 deals in 1H 2021) and shrunken in size. However, these companies exited in record time (51% faster than 2021) and still achieved a substantial median upfront multiple (13x), much larger than the 4.6x median between 2019 and 2021.

Three of the four 1H 2022 deals were dx tests companies. Ro acquired Dadi, an at-home male fertility company, after also acquiring Modern Fertility in 2021, strengthening their suite of direct-to-consumer reproductive health products and services. Castle Biosciences expanded their reach beyond oncology by acquiring AltheaDx, which specialized in tests to personalize care for mental health conditions. BioMerieux added to its infectious disease franchise by acquiring Specific Diagnostics, which has developed an antimicrobial susceptibility test to inform the treatment of blood infections.

CellPoint, an R&D tools company with an automated cell therapy manufacturing platform, was acquired by drug developer Galapagos to help streamline their manufacturing processes.



Dx/Tools Private M&A Deals by Indications



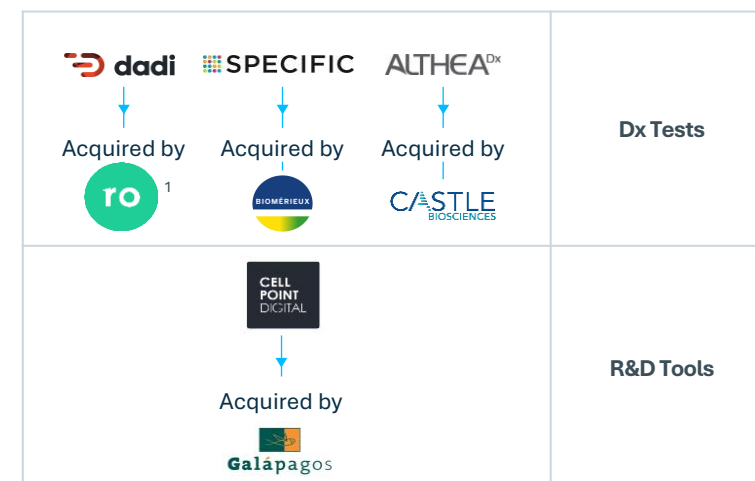
Dx/Tools M&A Deal Median Values by Year

Year	Upfront (\$M)	Total Deal (\$M)	Years to Exit
1H 2022	\$117	\$170	2.9
2021	\$225	\$270	5.9
2020	\$350	\$350	5.4
2019	\$68	\$83	5.3
2018	\$126	\$161	8.6
2017	—	—	—
2016	\$225	\$325	8.5

Note: 1) This company overlaps with the healthtech sector and is included in both sets of sector-specific analyses. M&A defined as all private, venture-backed M&A deals with at least \$50M upfront, globally. 2) Upfront multiples calculated by dividing upfront payment by total dollars invested. Public market performance metrics calculated as of 6/30/2022.

Source: PitchBook and SVB proprietary data.

1H 2022 M&A Deals



As IPO Performance Wanes, Public Market Appears Closed

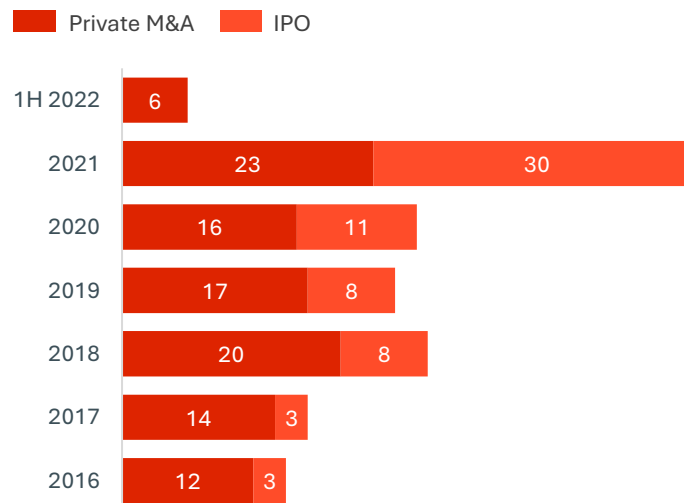
In 2021 device IPOs set a record and more than doubled 2020's activity, even as pre-money valuations, dollars raised, and post-IPO performances began to slip. This slip quickly progressed into a deep decline, leading to a closed public market and no IPOs in 1H 2022. M&A also suffered, with only six deals, as many emerging acquirers appeared to stay focused internally in 1H 2022.

A bright spot in the public market, the IPO class of 2019, showed very strong post-IPO performance through 1H 2022, making it the best-performing IPO class in healthcare. This group of IPOs was led by companies including Shockwave Medical (+1025%), Endovastec (+342%) TransMedics Group (+97%) and Avedro (+91%, acquired by Glaukos in late 2019).

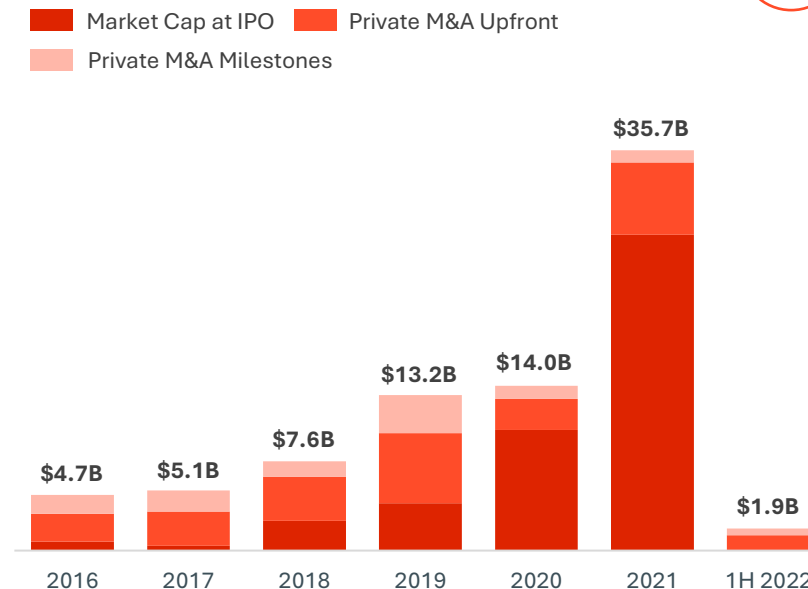
The class of 2020 only had two standout post-IPO performers remaining through 1H 2022: a Shanghai ophthalmology company Eyebright (+552%), and Inari Medical (+250%).

As of 1H 2022, all of the top-performing device IPOs from the class of 2021 are from Shanghai and Hong Kong, with Bioheart Biotechnology, Kontour Medical, AoHua and Allgens trading above 80%. All the other IPOs in this class, except PROCEPT (+31%), were trading down from their IPO price.

Device Private M&A Deals & IPOs by Year



Device Exit Values by Year



IPO Performance by IPO Year

	2019	2020	2021	1H 2022
Number of IPOs	8	11	30	0
Median Pre-\$/Median Dollars Raised	\$203M / \$97M	\$469M / \$156M	\$368M / \$110M	
Median/Average 2019 Performance	91% / 128%			
Median/Average 2020 Performance	116% / 192%	111% / 148%		
Median/Average 2021 Performance	55% / 206%	-14% / 72%	-2% / 5%	
Median/Average 1H 2022 Performance	86% / 188%	-45% / 32%	-58% / -11%	

Note: M&A defined as all private, venture-backed M&A deals with at least \$50M upfront, globally. IPO defined as all private, venture-backed IPOs raising at least \$25M in proceeds, globally. Market cap at IPO used to estimate value of public companies. Public market performance metrics calculated as of 6/30/2022.

Source: PitchBook, Capital IQ, SVB proprietary data.

Eroding Public Market Values Put M&A on Backburner

M&A in 2021 set records for both the number of acquisitions and median upfront payments. We saw rising interest in this sector as emerging small and mid-cap acquirers bought venture-backed companies like Axonics (Contura), Haemonetics (Cardiva Medical), Intersect ENT (Fiagon AG), SeaSpine (7D Surgical) and Venus Medtech (Cardiovalve).

However, in 1H 2022, poor performance in the public market has forced many companies to revisit cash spend and push the thought of acquiring new technologies on the back burner. As a result, device M&A have hit a record low.

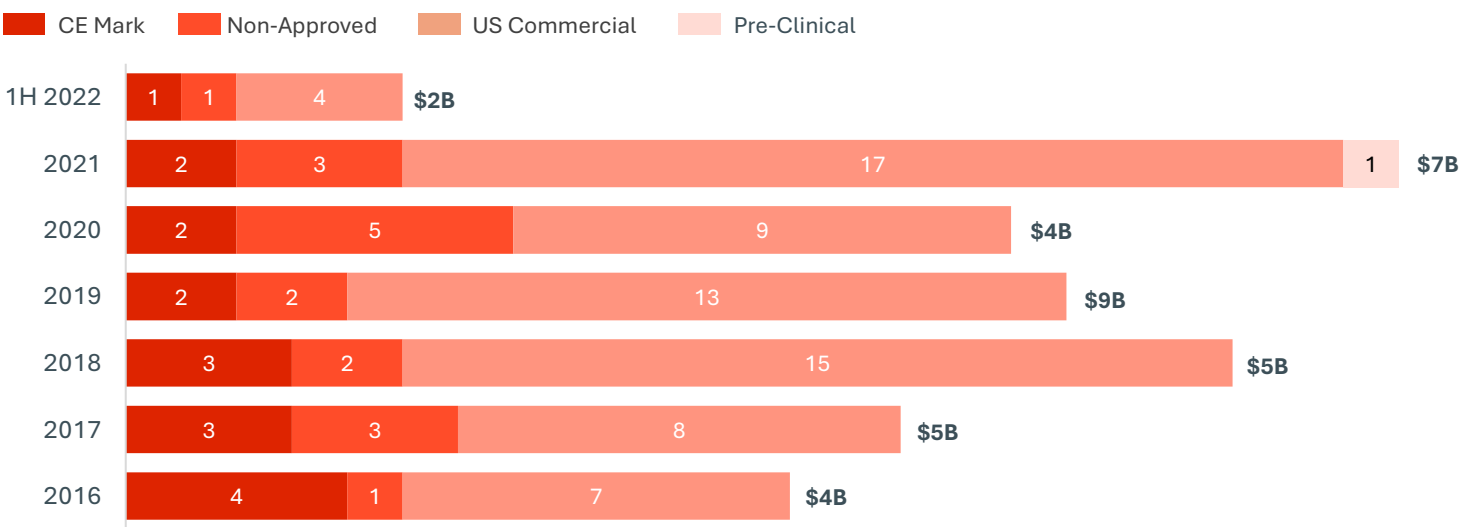
Despite the slowed activity overall, orthopedics companies continued to lead all private device M&A, with two deals in 1H 2022 and six deals since 2021.

The biggest deal in 1H 2022 (\$675 up front, \$925 total deal value) was Medtronic’s acquisition of Affera, a development-stage cardiac ablation company that also has mapping and navigation technologies. This was the second biggest private device M&A since 2020, only topped by the acquisition of Preventice Solutions in 1H 2021.

We anticipate that as public market valuations settle, a number of small-cap and mid-cap public companies may consider acquisitions in the near term, including Inari, Intuitive, Nevro, Shockwave and Penumbra (note Penumbra recently acquired a venture-backed healthtech company, Sixense Enterprises, in 2021).



Device Private M&A Deals by Stage¹

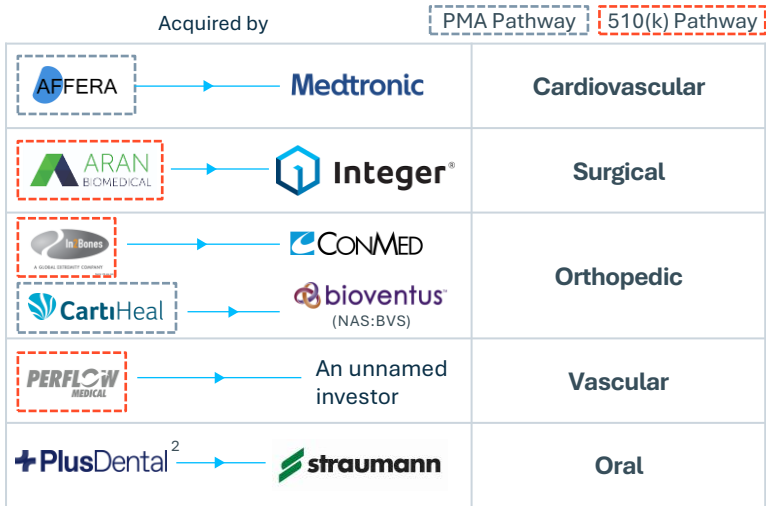


Device M&A Deal Median Values by Year

Year	Upfront (\$M)	Total Deal (\$M)	Years to Exit
1H 2022	\$135	\$197	7.7
2021	\$230	\$295	5.7
2020	\$132	\$210	4.2
2019	\$120	\$220	7.9
2018	\$195	\$223	7.8
2017	\$131	\$283	7.7
2016	\$173	\$260	8.6

Note: 1) CE Mark defined as achieving a CE Mark but not FDA approval. US Commercial defined as achieving FDA clearance or approval, with or without CE Mark. 510(k), De Novo 510(k) and PMA defined in appendix.
 2) This company overlaps with the healthtech sector and is included in both sets of sector-specific analyses. M&A defined as all private, venture-backed M&A deals with at least \$50M upfront, globally.
 Source: PitchBook and SVB proprietary data.

1H 2022 M&A Deals



Device Pathway: Exit Analysis

The FDA has multiple pathways for approval or clearance of a device. In this analysis we compare 510(k) and PMA pathway exits.

In 510(k)s, most exits between 2015–2018 (92%) come after FDA 510(k) clearance and initial revenue. The focus on demonstrable revenue required later-stage commercialization rounds, which extended time to exit (median nine years) and lowered deal multiples. From 2019 to 1H 2022, 510(k)s continue to need clearance and revenue before exit. However, these more recent exits yielded higher deals values (median up 41%) and better returns for investors (median total deal multiple up 70%), with less time and money. This may be due to better capital efficiency, or possibly investors demanding that companies are more mature prior to the series A. Either way, these trends in 510(k) M&A are encouraging for investors.

PMA M&A from 2015 to 2018 usually come before FDA approval (88%), as acquirers moved earlier to secure novel technologies. These M&A yielded larger deal values and took less time to exit than 510(k). However, from 2019 to 1H 2022, we saw less pre-FDA approved M&A deals and more commercialization rounds, yielding lower exit multiples. However, we also noted smaller M&A deal sizes. This is likely because many of the stronger companies chose an IPO route at higher valuations instead of M&A. M&A activity in 2H may increase as the IPO market remains closed, however we expect longer times to exit and lower multiples since many companies already raised larger pre-IPO rounds.



VC-Backed Device M&A by Pathway 2015-1H 2022

Development Stage CE Mark Only FDA-Approved

	510(k)		PMA	
Median	2015–2018 34 Exits	2019–1H 2022 32 Exits	2015–2018 26 Exits	2019–1H 2022 25 Exits
Stage at Exit	1 1 32	2 1 29	9 14 3	9 6 10
Invested Capital	\$46M	\$25M	\$37M	\$60M
Upfront	\$110M	\$115M	\$218M	\$200M
Upfront Multiple	3.0x	5.2X	4.3x	3.4x
Total Deal	\$128M	\$180M	\$308M	\$300M
Total Deal Multiple	3.7x	6.3x	7.1x	4.0x
Time to Exit	9.0	6.0	5.6	67.1
Top Indications ¹	Orthopedic (24%) Cardiovascular (18%) Surgical (15%)	Orthopedic (17%) Surgical (15%) Imaging (11%)	Cardiovascular (38%) Ophthalmology (20%) Vascular, Neurology (12% each)	Cardiovascular (30%), Vascular, Neurology, Orthopedic (13% each)
Top 3 Publicly Disclosed Deals	ELLIPSE NxTHERA nVision	AURIS Preventice SOLUTIONS Mobius IMAGING	Valtech twelve symetis	CARDIVA IVANTIS® AFFERA

Note: 1) Top indications calculated by deal count. Top deals calculated by deal size. M&A defined as all private, venture-backed M&As with upfront payments of at least \$50M, globally. CE Mark defined as achieving a CE Mark but not FDA approval. US Commercial defined as achieving FDA clearance or approval, with or without CE Mark. 510(k), De Novo 510(k) and PMA defined in appendix. Multiples calculated based on total dollars invested. Public market performance metrics calculated as of 6/30/2022.

Source: PitchBook, press releases and SVB proprietary data.



Healthcare Outlook: 2022 and Beyond

Fundraising and Investments:

Venture healthcare fundraising in the US will likely hit \$20B+ and investment into companies in the US and Europe will likely drop 15%–20% from 1H 2022 as many companies will look to either reopen their last round or raise insider rounds to have cash burn through 2023. We expect VCs to slow their deal pace vs. 2021 but continue to invest from recently-closed funds, making 2022 the second biggest investment year ever, behind 2021.

Biopharma:

LIPO deal activity will be in the single digits in each of the next two quarters, leading to less investment in the sector and lower valuations for series B and later deals. Though series A activity should continue to be strong and approach 2021's record, overall biopharma investment will likely be down 20% from 2021 but still exceed 2020 investment. In 2H 2022, we anticipate 15–20 IPOs and a modest uptick in private M&A.

HealthTech:

We predict Q3 2022 investment into healthtech will first drop to 2020 levels, then bounce back in Q4 to ~\$7B, with lower valuations and fewer mega-deals as public markets continue to create pressure on private valuations. While we expect top healthtech companies to raise capital through more insider and bridge rounds, we will likely start to see more down rounds. We believe acquirers will be more selective and look for targets that add value by either enhancing their current healthcare offerings or providing talent.

Dx/Tools:

Dx/Tools investment should finish 2022 somewhere in between the activity in 2020 and 2021. Series A should rebound from a weak Q2 to hit \$1B+ in investment for the full year. We expect the slow private M&A pace to continue until valuations in the public market find a lower bound, likely ending with 12–16 M&A deals this year. When public values do settle, the top-flying private dx/tools companies may consider pursuing IPOs, leading to single-digit IPOs in 2H 2022.

Device:

While both early and later-stage investment was strong in 1H 2022, we predict a slowdown in 2H to end the year around \$7B–\$8B, as many later-stage companies will defer raising large outsider-led rounds. Some device companies will likely have strong enough private syndicates to support an IPO, but again we stay tuned to see a bottom in the market. M&A should rebound slightly in 2H 2022 but it likely will be dominated by larger acquirers.

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Jonathan earned a B.S. in business administration from the University of California, Riverside, and a J.D. from Santa Clara University.



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Raysa graduated from the University of Southern California with honors, receiving a B.S. in human biology.



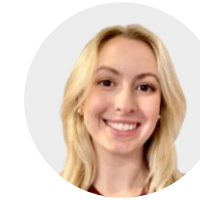
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Beatriz Atsavapranee analyzes data on healthcare venture investments and exits to identify emerging trends and synthesize key takeaways. She also produces deep dives into specific technical areas across a range of subsectors.

Outside of SVB, Beatriz is a Ph.D. candidate at Stanford University. She has more than seven years of experience developing new biomedical technologies, from peptide-based therapeutics to microfluidic and bioinformatics tools.

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Glossary

Descriptions

All-In Deal defined as an acquisition where the full deal value is paid at deal close.

Series A defined as all first-round institutional or corporate venture investment, and all first-round investments equal to or greater than \$2M, regardless of investor.

Upfront Payments defined as initial proceeds from an acquisition paid upon the close of a structured deal; they do not include milestones.

Milestones to be Earned defined as proceeds from an acquisition that are paid once predetermined milestones are met.

Total Deal Value defined as the full value of the acquisition, including milestones to be earned.

Time to Exit defined as the time from the close of a company's first institutional round of financing to the exit.

Step-Up defined as the valuation change from the last round post-money value to the next round pre-money value.

Corporate Investor defined as a corporate venture and parent company investment into venture-backed companies.

Computational Biology: To qualify as a computational biology company in this analysis, per review of their website, the company must (1) focus on drug discovery and/or development (biopharma/R&D tools), (2) apply novel computational tools to gain biological and/or chemical insights, (3) have the ability or potential for platform creation and (4) have a team with computational experience.

European Data: All European data and statistics include data from the European Union and the United Kingdom.

Device Regulatory Definitions

Non-approved defined as a device product that has not obtained regulatory clearance or approval for its product.

CE Mark defined as a device company that has CE Mark approval but has not received FDA approval. CE Mark is a European Union designation that is typically less difficult to obtain than FDA approval, and the approval process often has a faster timeline.

US Commercial defined as a device company that has received FDA approval or clearance of its product and usually is in a commercial stage.

Indication Definitions

Neurology defined as CNS, pain and psychology companies, as well as neurology implant technologies.

Non-Invasive Monitoring (NIM) defined as medical data collection through sensors and other technology worn outside the body.

Dx Tests defined as proprietary yes/no diagnostic tests.

Dx Analytics defined as actionable data analytics to help determine treatment.

R&D Tools defined as research equipment/services for biopharma and academia.

HealthTech Subsector Definitions

Provider Operations defined as companies that provide solutions to increase the efficiency and accuracy of provider-provider, and provider-patient interactions.

Alternative Care defined as companies that provide primary or specialty care outside a hospital or private practice.

Clinical Trial Enablement defined as companies that develop solutions to accelerate drug discovery and the digitization of clinical trials.

Healthcare Navigation defined as companies that guide users to relevant providers and/or payers based on their needs.

Medication Management defined as companies that aid users in access and adherence to their prescribed medication.

Wellness & Education defined as companies that inform users of healthy lifestyle and medical best practices, as well as medical education companies.

Biopharma Top 15 Crossover Investors

Biopharma Top 15 Crossover Investor defined as a public-minded investor who strategically invests in private companies. The Top 15 list includes: RA Capital, Perceptive Advisors, Deerfield Management, Redmile Group, Cormorant Asset Management, The Invus Group, Fidelity (et al.), EcoR1, Casdin Capital, Janus, Logos, Viking, Citadel, Rock Springs Capital, and Wellington Management.



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