Healthcare Investments and Exits

Mid-Year 2022

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@SVB_Financial Engage #SVBHealthcare

Contents

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.

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.

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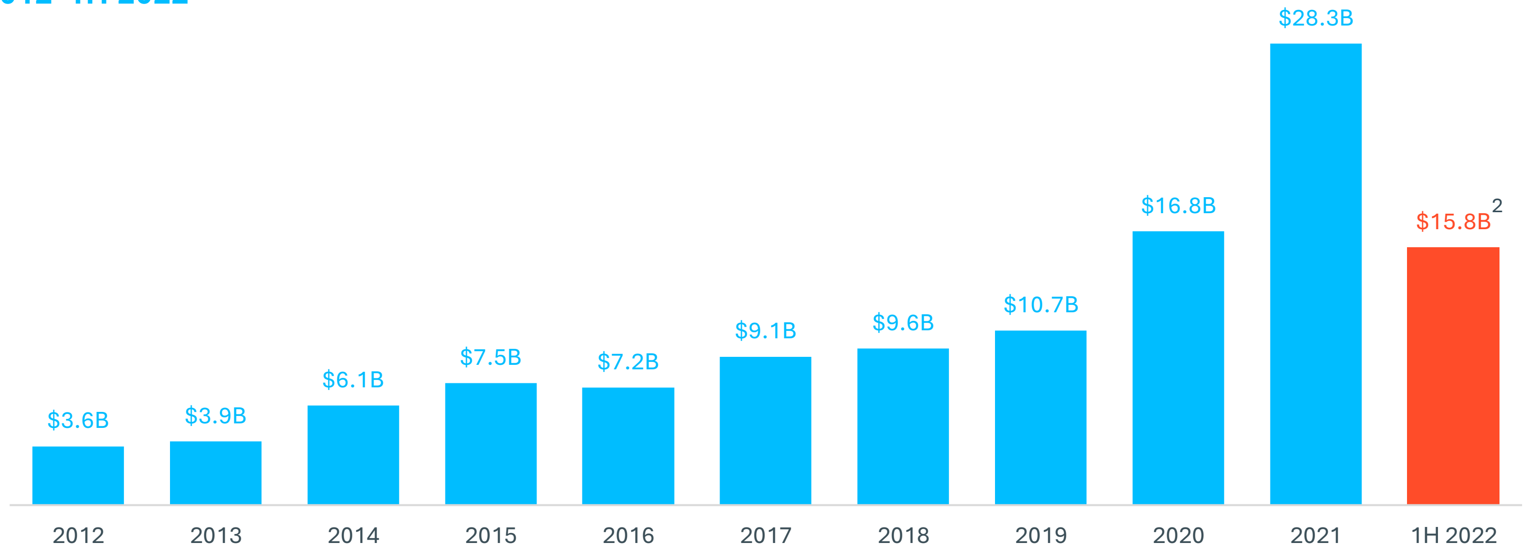
US Healthcare Venture Capital Fundraising[1]

2012–1H 2022



Notable Funds with Allocations to Healthcare[3]

THE COLUMN GROUP | ARCH VENTURE PARTNERS | ALPHA WAVE | FRAZIER LIFE SCIENCES
flare capital partners | 5AM VENTURES | a16z | HealthQuest CAPITAL | THIRD ROCK VENTURES
CATALIO | TIGERGLOBAL | THRIVE CAPITAL | 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.

Q1 2022 investment totaled $23B, nearly matching the record investment pace of Q1 and Q2 2021.

Q2 2022 showed weaker numbers. This confirms anecdotal conversations with both investors and companies that noted a recent slowdown in investment pace. Overall, Q2 2022 investment totaled $15.5B, putting it behind every quarter in 2021 but ahead of every quarter in 2020.

Deals and dollars are down through first month and a half in Q3, although data may still be catching up. We see investors in various stages of paralysis – with money to invest but time focused on 1) financing existing portfolio and 2) try and understand the right valuation metrics for later stage deals.

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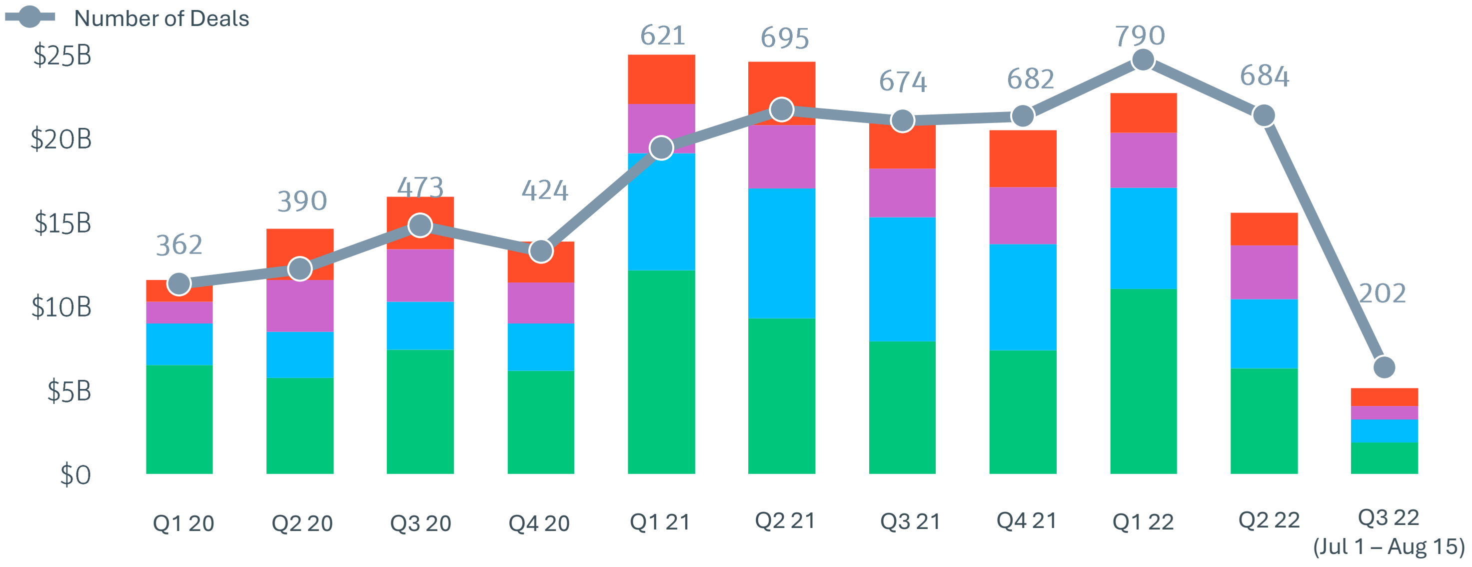
VC Dollars and Deals by Healthcare Sectors

US and Europe[1]

Full Year 2021



	2020			2021			1H 2022			2022 Q3 *as of 8/15/22*		
Sectors ($M)	US	Europe	Total	US	Europe	Total	US	Europe	Total	US	Europe	Total
Biopharma	21,198	4,597	25,796	30,097	6,735	36,832	14,602	2,736	17,338	1,538	323	1,860
HealthTech [2]	9,563	1,365	10,928	26,020	2,448	28,468	7,801	2,340	10,141	858	540	1,398
Dx/Tools	8,322	1,632	9,954	10,567	2,424	12,991	5,614	855	6,469	691	99	790
Device	4,997	773	5,770	6,189	2,322	8,511	3,477	853	4,330	888	179	1,067
Total	**44,081**	**8,367**	**52,448**	**72,871**	**13,930**	**86,802**	**31,551**	**6,784**	**38,335**	**3,975**	**1,141**	**5,116**

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 8/15/2022

Source: PitchBook and SVB proprietary data.

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 $567M was 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.

NIM companies continue to be a bright spot for the device sector, both on a valuation and check-size front. Conversely, cardiovascular startups have struggled to raise seed/series A dollars in 1H 2022.

Q3 early-stage dealmaking has slipped considerably in the first half of the quarter – just four deals at $34M versus a run rate of $270-300M for full Q3 the last two years. Troubling similarities to post 2008/9 when device Series A fell off a cliff?

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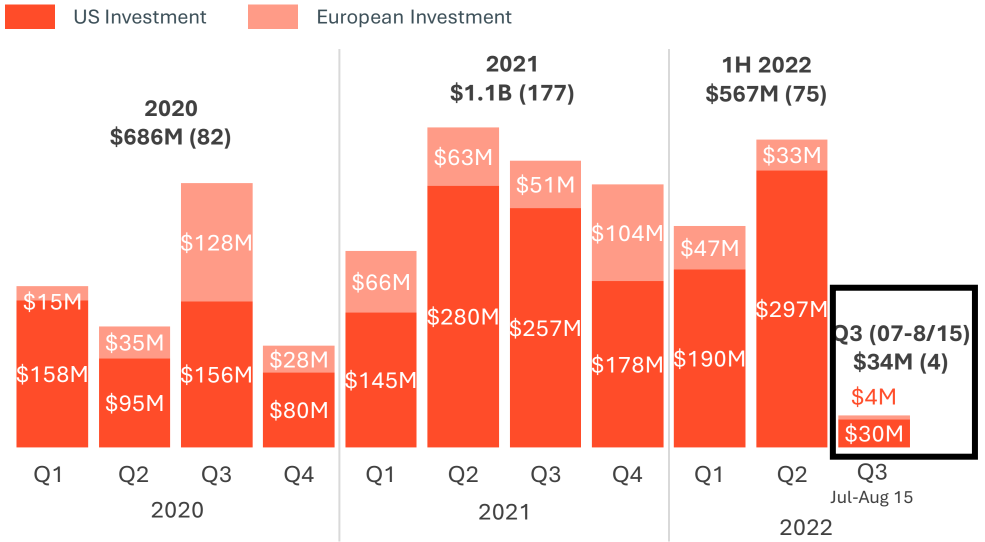
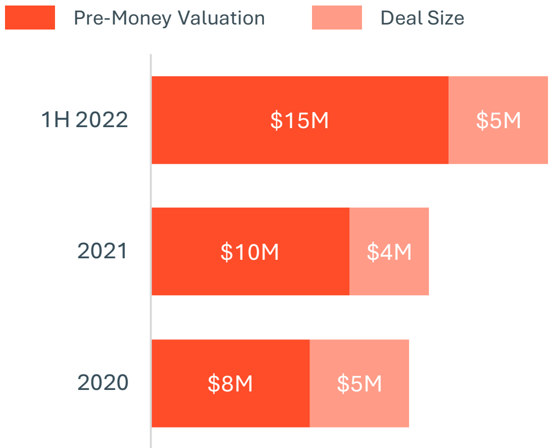
Seed/Series A[1] Dollars and (Deals)

US and Europe



Median Seed/Series A Valuations

US and Europe



Seed/Series A Dollars and Deals by Top Indications

	2020		2021		1H 2022	
Indications	**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

Largest 1H 2022 Seed/ Series A Deals

i-LUMEN SCIENTIFIC Advancing Vision Restoration
XII MEDICAL
TriFlo Cardiovascular Inc.
apiject
amberimplants
Cognito Therapeutics
AULISA
AMADA SENIOR CARE
Miga Health
2
AKURA MEDICAL
epitel
GENIUS

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 8/15/2022

Source: PitchBook and SVB proprietary data.

Device

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.

While imaging deals and dollars declined in 1H 2022, NIM companies continued to dominate later-stage device deal flow.

Q3 has continued to post big financings in the face of a tough exit environment. Biggest deals in Q3 so far include:

Biofourmis ($320M) NIM deal led by GA at a $1B Pre

Orchestra BioMed ($110M) Platform Device deal led by RTW, then reverse merger into Health Sciences Acquisitions Corp 2 (also RTW led)

Medical Microinstruments ($75M) Surgical robotics deal led by Deerfield

Kerecis ($60M) Derm (wound healing) deal led by Family Office Kirkbi

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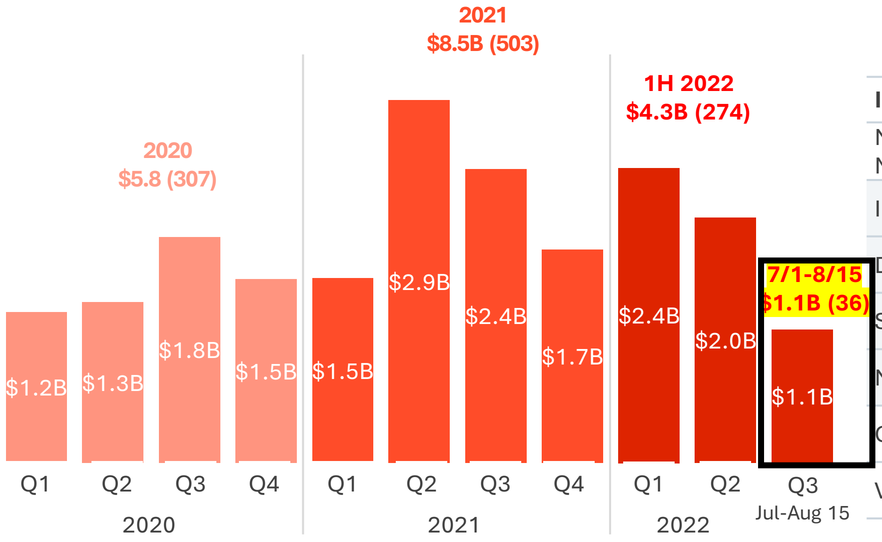
Total Dollars and (Deals)

US and Europe



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

Notable 1H 2022 Deals

2020 2021 1H 2022

$50M+ to $99M

Distalmotion, Ablative Solutions, Coryia, diabeloop, MicroTransponder, [1], Athelas[1], reflexion, Digital Diagnostics[1], innoVheart, Beta Bionics, Cognito Therapeutics, Aerin Medical

22 | 27 | 13

≥ $100M

biolinq, apiject, biofourmis[1], CorneaGen, enable injections, nalu neurostimulation, Noah Medical, GALA Therapeutics

7 | 12 | 8

1H 2022 Highest-Valued Private Companies[2]

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 8/15/2022.

Source: PitchBook and SVB proprietary data.

Early-Stage Device Step-Ups: 2022

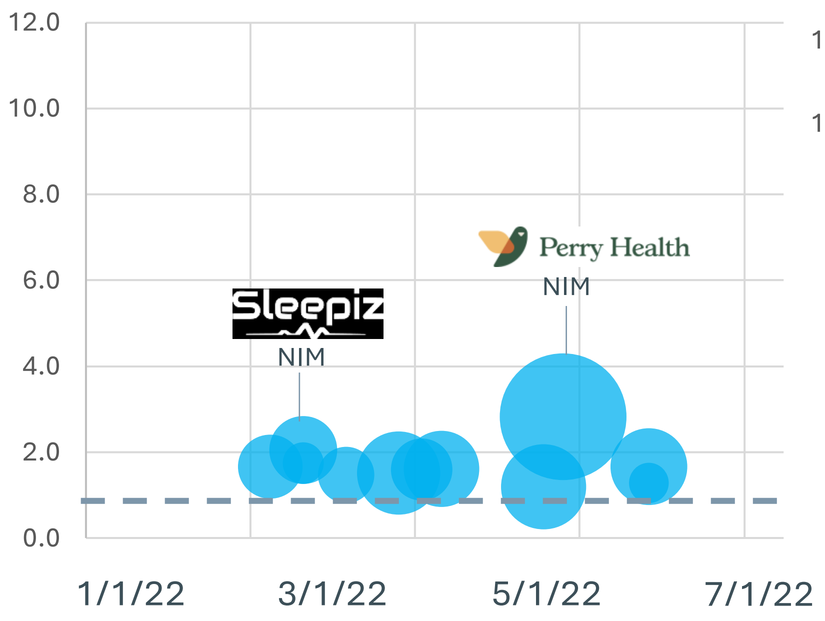
We calculated 31 early-stage step-ups[1] in 1H 2022. When compared to other sectors, device had the lowest median early-stage step-ups.

In Seed-A the only 2x or better step-ups were for NIM companies Perry Health (from General Catalyst and Lerer Hippeau, among others) and Sleepiz (led by Verve Ventures).

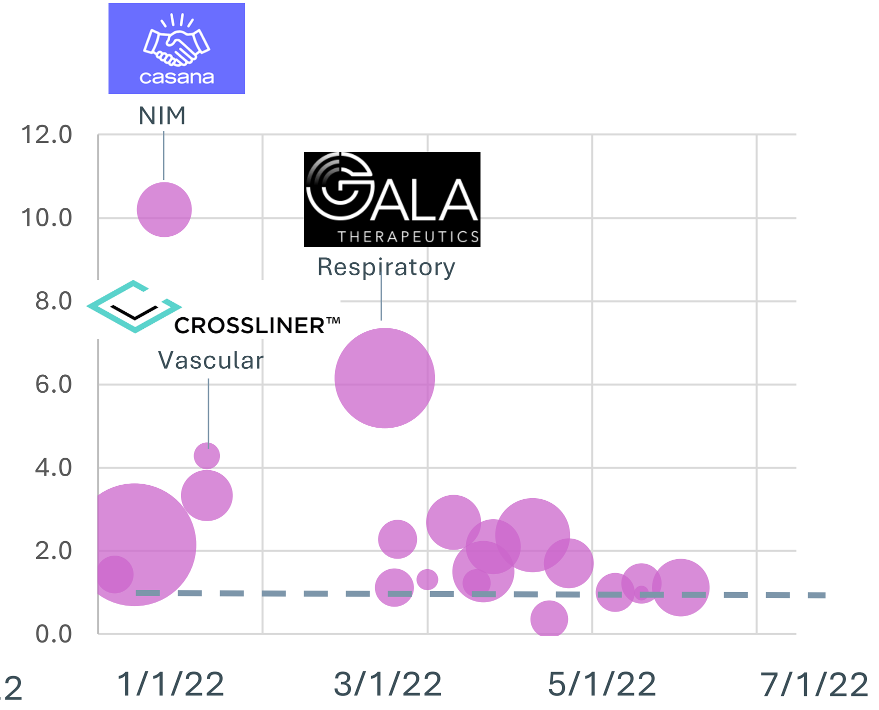
For A-B deals there were nine deals with step-ups greater than 2x, however nothing above a 3x since February. The top step-up was by Casana (10.2x), led by Morningside Group and joined by Matric Partners. Two other deals received 3x+ step-ups: Gala Therapeutics (6.2x), solely invested by Apple Tree Partners, and Crossliner (4.2x), with undisclosed investors.

Step-Up	Median Multiple
Seed-A	1.6x
A-B	1.7x

Device Step-Ups: Seed-Series A



Device Step-Ups: Series A-B



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.

Later-Stage Device Step-Ups: 2022

We calculated 31 later-stage step-ups[1] in 1H 2022. When compared to other sectors, device had the lowest median later-stage step-ups.

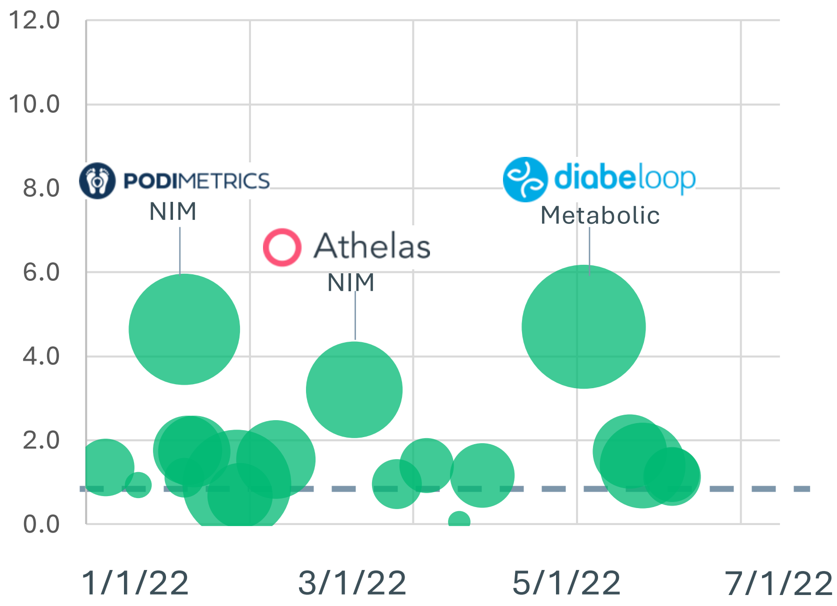
Series B-C deals yielded only three step-ups over 3x and none above 4.7x. Two of the biggest step-ups were from NIM companies Athelas (4.7x), led by Tribe Capital, and Podimetrics (3.2x), led by D1 Capital. The other was Diabeloop (4.7x), led by LBO France (French PE firm).

CardioFocus (4.1x), led by an undisclosed investor, was the only Series C and later deal with a step-up over 2x!

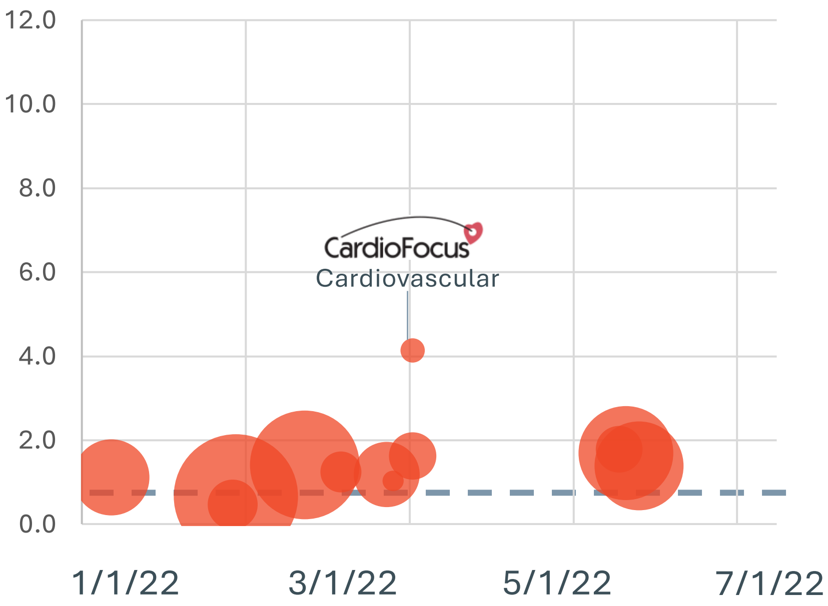
There were also seven down rounds in Series B+ financings, more than any other sector.

Step-Up	Median Multiple
B-C	1.4x
C-D+	1.3x

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 Active[1] Device Investors

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

Venture Activity Overall

Total	2021	1H 2022	Investor
7	6	1	Gaingels
7	4	3	Alumni Ventures Group
6	6	0	Shangbay Capital
5	3	2	SV Health Investors
4	4	0	River Cities Capital[2]

Later-Stage/Crossover Activity Overall

Total	2021	1H 2022	Investor
4	4	0	Sea Purity Investments
4	3	1	BGF
4	3	1	KCK medtech
4	3	1	Soleus Capital
3	3	0	Sands Capital

Corporate Venture Activity Overall

Total	2021	1H 2022	Investor
4	4	0	GV
4	4	0	Mayo Clinic
3	3	0	Zepp Health
3	2	1	J&J Innovation
2	2	0	LabCorp[2]

Non-Invasive Monitoring

Total	2021	1H 2022	Investor
4	3	0	Band of Angels
4	3	1	SV Health Investors
2	2	0	8VC
2	1	1	OSF HealthCare
2	1	1	Genoa Ventures[2]

Imaging

Total	2021	1H 2022	Investor
3	3	0	Zepp Health
2	2	0	Mint Venture Partners
2	2	0	WARF Wisconsin Alumni Research Foundation
2	1	1	Alumni Ventures Group
2	1	1	Shangbay Capital[2]

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.

Select Active[1] Device Investors in 1H 2022:

Non Traditional Late Stage Still Did Deals in 2022

US and Europe (1H 2022)

Q1 2022 Device Venture Activity (New Investor)

Seed/Series A

- IQ Capital
- Cormorant Asset Management
- Santé Ventures
- Shifamed
- Catalyst Health Ventures
- Dexcom Ventures
- Genoa Ventures
- OSF Healthcare Foundation
- Wavemaker Three-Sixty Health
- Kurma Partners
- Ben Franklin Technology PArtners Northeastern Pennsylvania
- DeepWork Capital

Series B+

- Aperture Venture Capital
- Gilde Healthcare
- MVM Partners LLP
- puravida Investments
- Questa Capital
- Evonik Leading Beyond Chemistry
- GCM Grosvenor
- Magnetar Capital
- Catalio Capital Management
- D1 Capital Partners
- EW Healthcare Partners
- Seroba.

Q2 2022 Device Venture Activity (New Investor)

Seed/Series A

- FoundersX Fund the Future
- BroadviewVentures
- K Tech Capital
- LU+
- Alumni Ventures
- ResMed
- SeedtoB
- MedTex Ventures
- S3 Ventures
- Catalio Capital Management

Series B+

- Lightstone Ventures
- General Atlantic
- CVS Health
- Alcon
- Deerfield
- Visionary Venture Fund
- Alpha Wave
- Gilde Healthcare
- Invus
- SV Health Investors
- Ally Bridge Group
- Action Potential Venture Capital
- Longitude Capital
- B Capital Group

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.

Device

Open IPO Window Fuels Step-Ups but Difficult Market Looms

With the IPO window open in 2019-2021, we saw a rise in both number and valuation in large, late stage deals.

However, with the pull-back in the public market the question arises around the ability of already well-funded, high value companies to raise another private round if an IPO is not available – and at what price.

Later Stage Device Pre-Money Valuations

Series B or Later Device Financings (2019 – 1H 2022)

Series B+ $75M+ Deals	2019	2020	2021	1H 2022
Pre-Money Value (median)	$200M[1]	$296M[1]	$375M[1]	$400M
Step-Up Calculation[1]	1.8x (1 step-down)	1.6x (1 step-down)	1.8x (1 step-down)	2.0x (n=2)
Large Post-$ Values (per PB)	$150-250M: Nuvaira $250M+: Acutus Medical, CMR Surgical, Imperative Care, TissueTech	$150-250M: Eargo, PlusDental $250M+: Avail, pulmonX, Element medical imaging, reflexion, Procept BioRobotics, Outset	$150-250M: Inbrace, Tasso, CeQur, ColubrisMX $250M+: elvie, Hyperfine, Ancora Heart, Quanta, Exo, Fractyl health, Procept BioRobotics, Imperative Care, Neuralink, CMR Surgical	$150-250M: Ablative Solutions, nalu neurostimulation $250M+: Gala Therapeutics, Noah Medical, reflexion, Distalmotion, biofourmis

Note: 1) Valuation information from PitchBook. Source: PitchBook and SVB proprietary data.

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

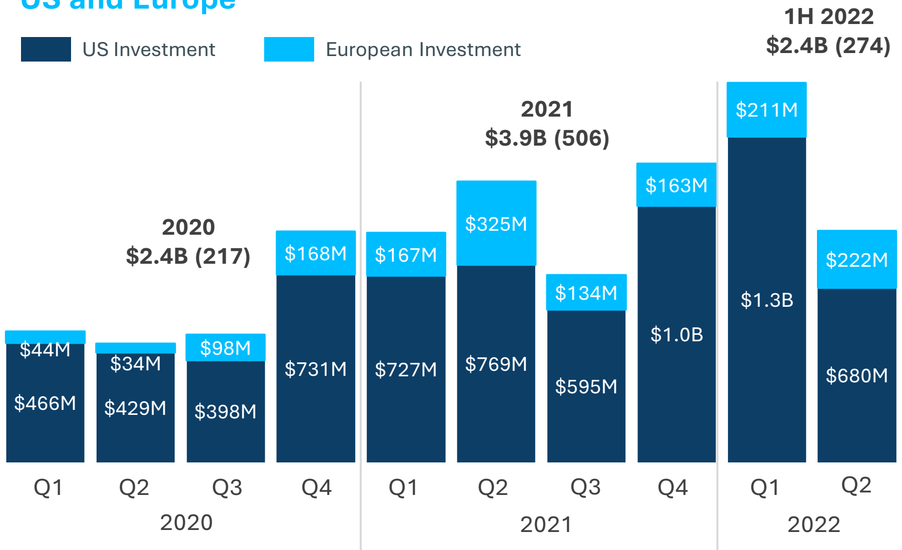
Q1 2022 was the biggest quarter on record for seed/series A healthtech investments. However, Q2 2022 investment dropped 40% as investors slowed their pace due to the public market correction.

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. 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.

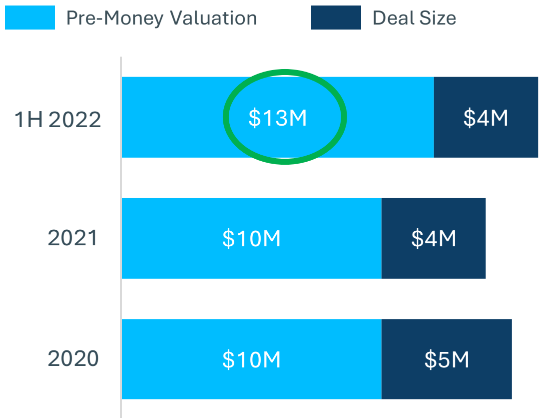
Seed/Series A[1] Dollars and (Deals)

US and Europe



Median Seed/Series A Valuations

US and Europe



Seed/Series A Dollars and Deals by Top Subsectors

	2020		2021		1H 2022	
Subsectors	**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

Largest 1H 2022 Seed/Series A Deals

EmpowerMe Wellness, OMA, TenSixteenBio, Waymark, Amada Senior Care, Pine Park Health, ANDHealth

2

Terremoto, Companion Spine, Vesalius Therapeutics, Profound Therapeutics, affini-T, ANDHealth, Septerna, Charm Therapeutics, Seismic Therapeutic

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.

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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.

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.

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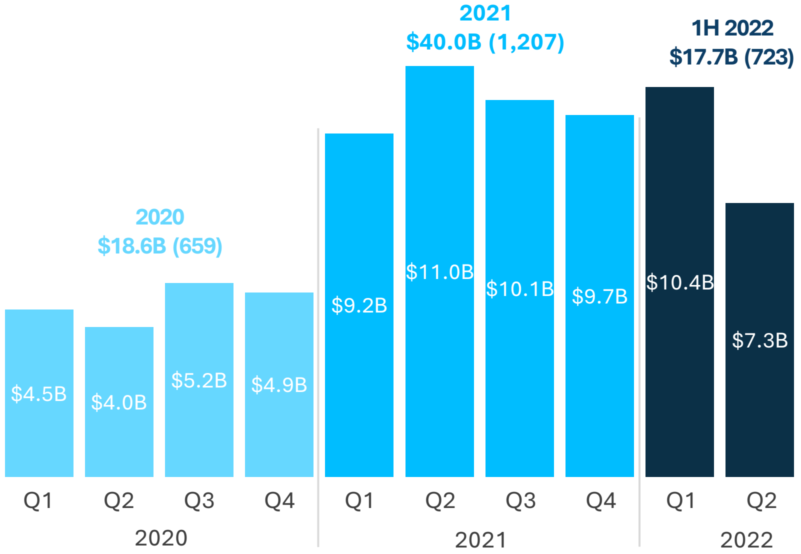
Total Dollars and (Deals)

US and Europe



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

Notable 1H 2022 Deals

2020 | 2021 | 1H 2022

$250M+ to $399M

SOMATUS

biofourmis[1]

KRIYA[1]

5 | 17 | 3

≥ $400M

Doctolib

eikon therapeutics[1]

2 | 9 | 2

Highest-Valued Financings in 1H 2022[2]

TO	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 therapeutics[1]	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-ups[1] 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.

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.

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

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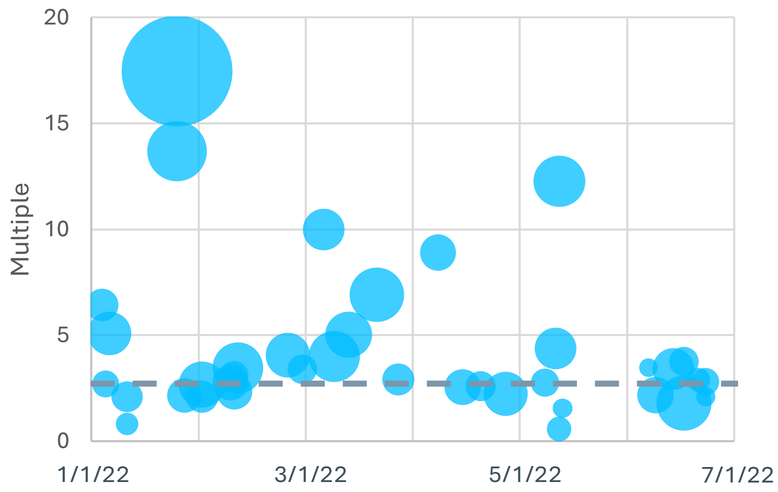
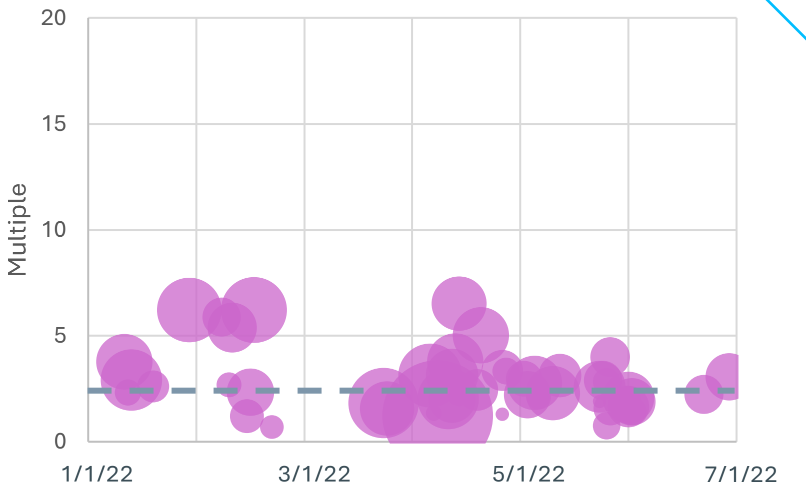
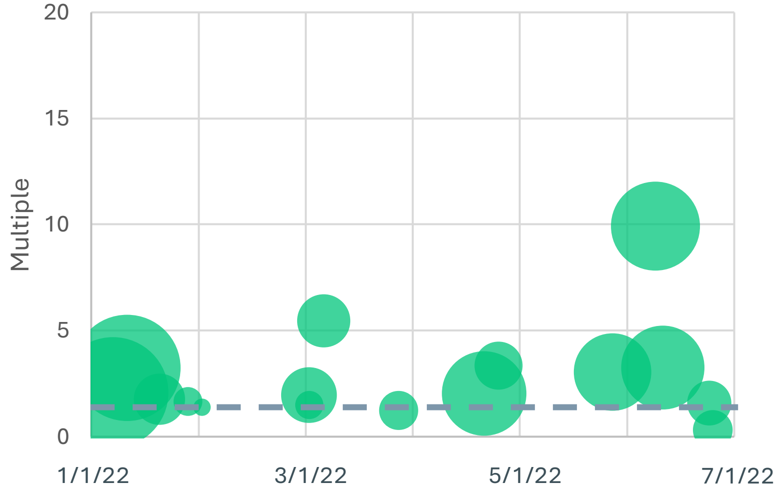
HealthTech Step-Ups Seed-Series A



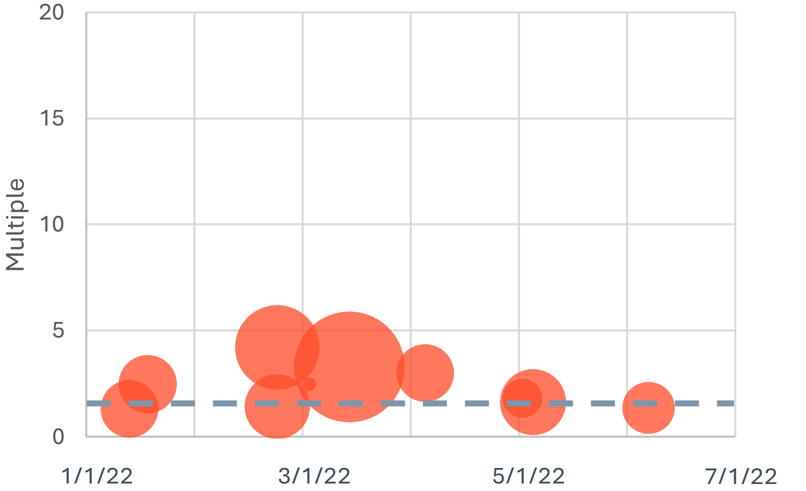
HealthTech Step-Ups Series A-B



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.

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.

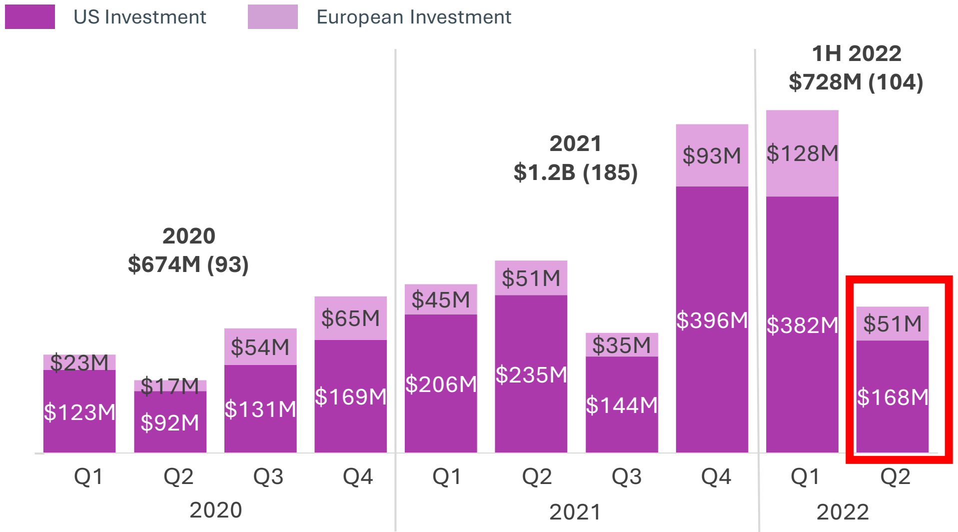
In dx tests, the largest early-stage deals were focused on neurology, with two in brain health (BRAINBox and Diadem) and one in autism (Linus Biotechnology). Anti-infective-focused companies led activity in this subsector with seven deals in 1H 2022 (although only one focused on COVID-19), followed by 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).

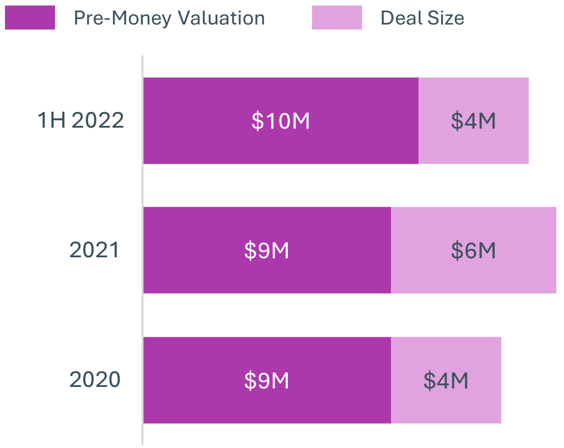
Seed/Series A[1] Dollars and (Deals)

US and Europe



Median Seed/Series A Valuations

US and Europe



Seed/Series A Dollars and Deals by Subsectors

	2020		2021		1H 2022	
Subsectors	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

Largest 1H 2022 Seed/ Series A Deals

Enumera Molecular, Fuzionaire Diagnostics, Ribbon Biolabs, BrainBox Solutions, Codetta, Spatial Genomics, LinusBio, Diadem, Volta Labs, ETD

Companion Spine, Inteneural, ANDHealth, Ordaos, Prenosis 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 overlap with the healthtech 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.

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.

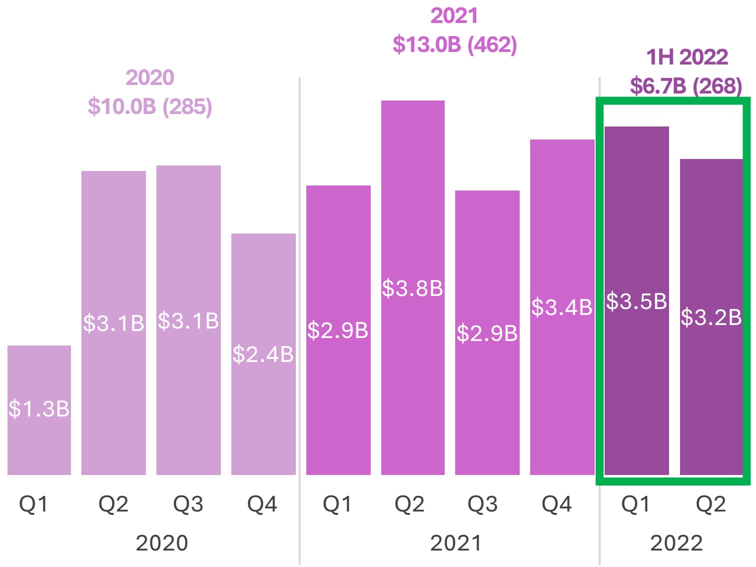
Resilience, a drug manufacturing company, remained the highest valued publicly disclosed private dx/tools company, raising its second $600M+ financing in two years and almost doubling last year's top valuation of $5.7B.

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.

svb

Total Dollars and (Deals)

US and Europe



Dollars and Deals by Subsectors

US and Europe

	2020		2021		1H 2022	
Subsectors	**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

Notable 1H 2022 Deals

2020 2021 1H 2022

$100M to $199M

metagenomi
scipher MEDICINE
Verana Health [1]
TMRW [1]
BillionToOne
visby medical
BostonGene
iz.ai [1]
OCTANT [1]
Oribiotech

17 28 10

$200M+

RESILIENCE
SYNTHEGO [1]
DNAnexus [1]
ULTIMA GENOMICS

10 11 4

1H 2022 Highest-Valued Private Companies[2]

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 biosciences [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-ups[1] out of the 260 dx/tools financings in 1H 2022.

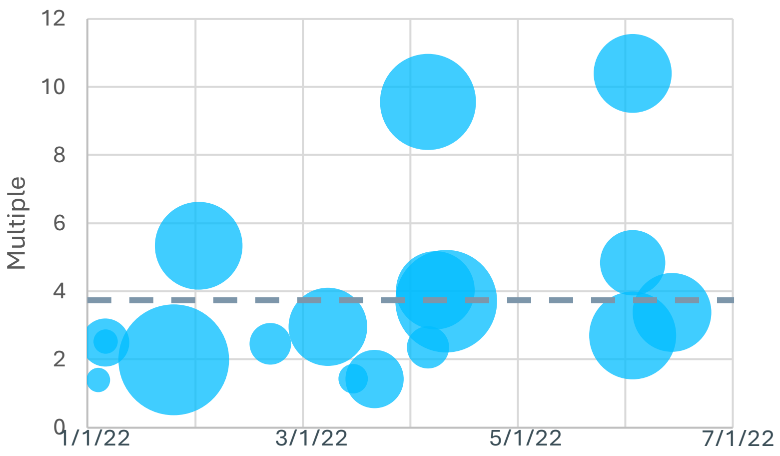
Dx/Tools had the second-best median multiple for early-stage step-ups (seed-A and A-B), trailing only healthtech. The largest step-ups were seed-A deals in Q2, showing that promising companies could raise significant up rounds despite an overall decline in venture investment. However overall A-B step-up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

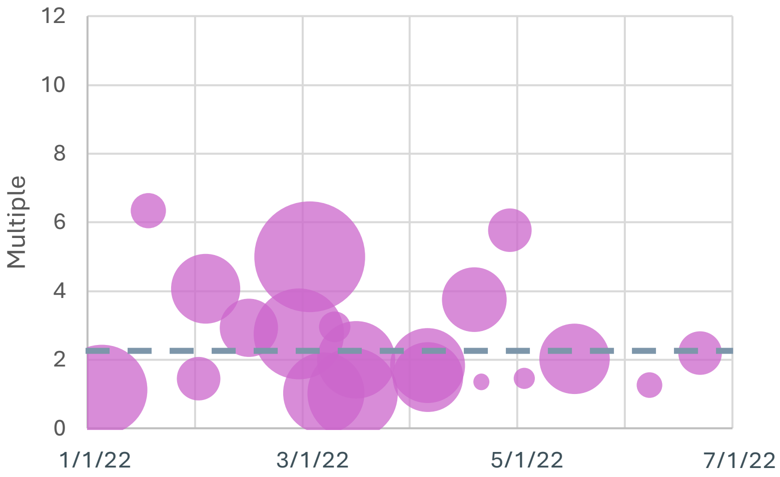
By contrast, later-stage dx/tools step-ups were all under 3x except for Lvis (3.2x), a dx analytics company focused on decoding neural networks to discover treatments for neurological diseases. Broken down by subsector, dx tests financings struggled the most, with a median step-up of just 1.2x, including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

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

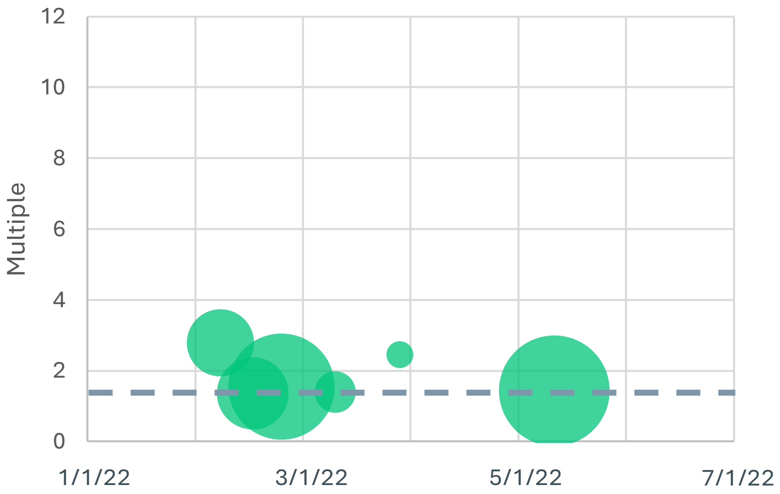
Dx/Tools Step-Ups Seed-Series A



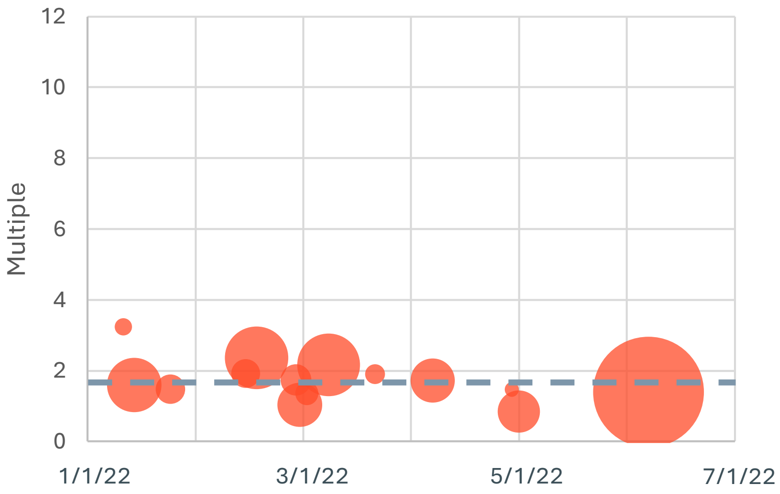
Dx/Tools Step-Ups Series A-B



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.

Healthcare M&A and IPO Activity

Global

As IPO Performance Wanes, Public Market Appears Closed

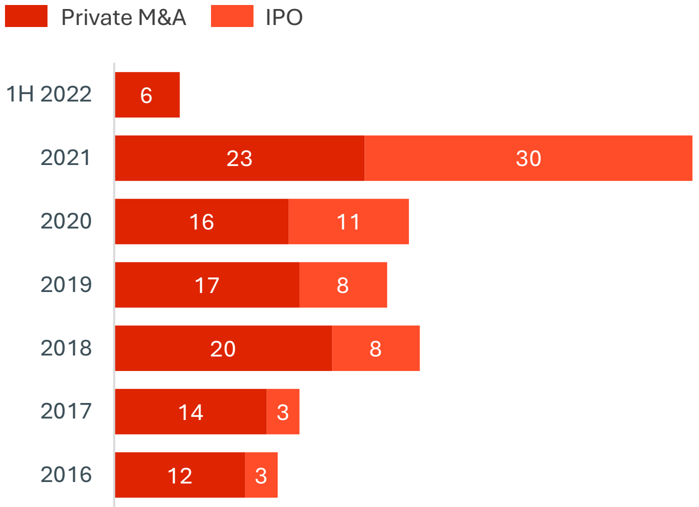
In 2021 device IPOs set a record and more than doubled 2020's activity, even as pre-money valuations, dollars raised, and post-IPO performances began to slip. This slip quickly progressed into a deep decline, leading to a closed public market and no IPOs in 1H 2022. M&A also suffered, with only six deals,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

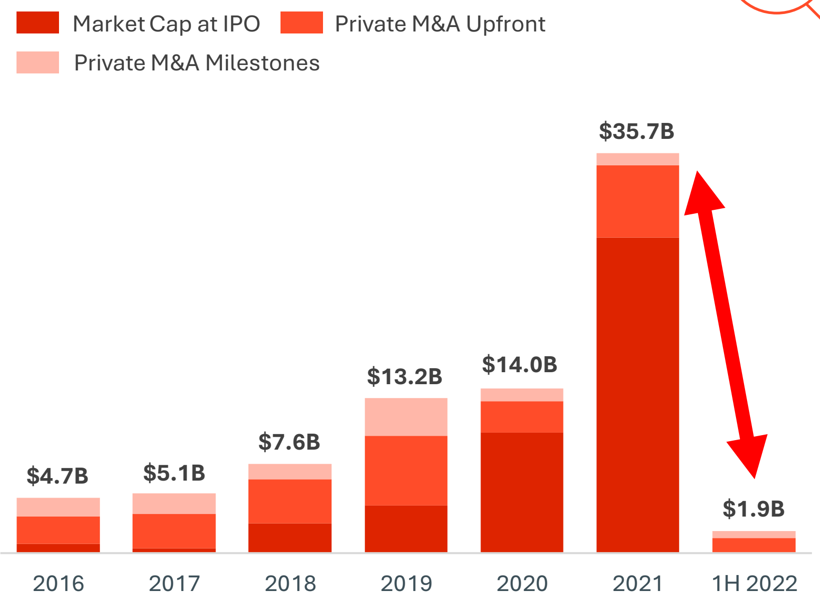
The class of 2020 only had two standout post-IPO performers remaining through 1H 2022: a Shanghai ophthalmology company Eyebright (+552%), and Inari Medical (+250%).

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).

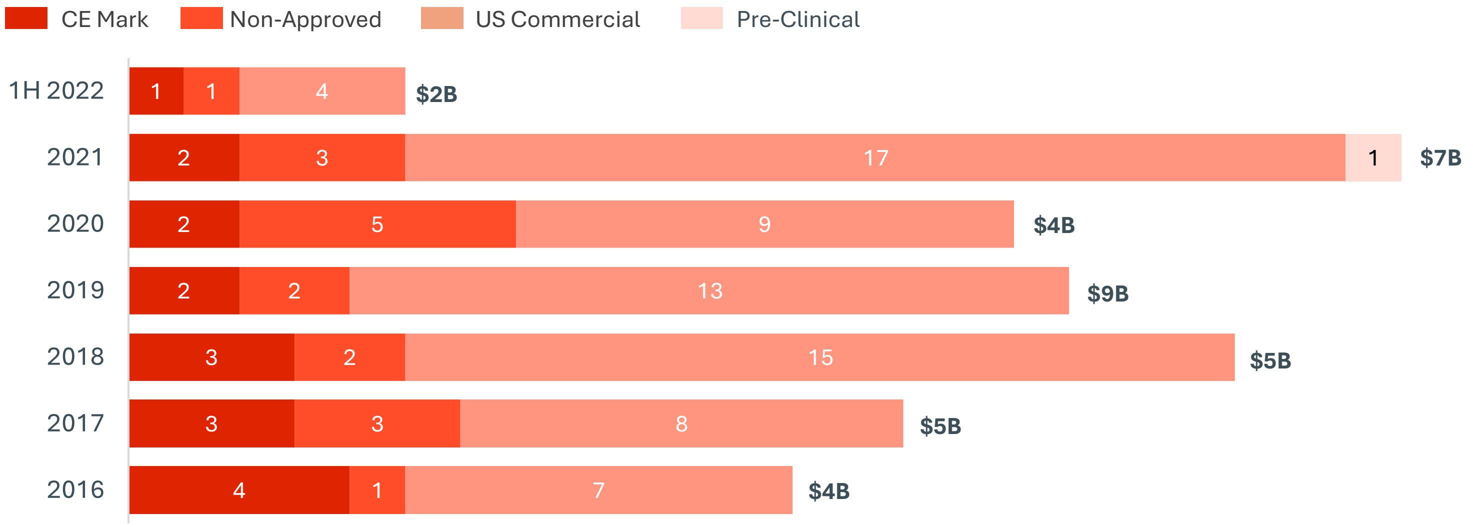
However, in 1H 2022, poor performance in the public market has forced many companies to revisit cash spend and push the thought of acquiring new technologies on the back burner. As a result, device M&A have hit a record low.

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 healthech company, Sixense Enterprises, in 2021).

Device Private M&A Deals by Stage[1]



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

1H 2022 M&A Deals

PMA Pathway | 510(k) Pathway

Company	Acquired by	Sector
Affera (PMA)	Medtronic	Cardiovascular
Aran Biomedical (510(k))	Integer	Surgical
In2Bones (510(k))	ConMed	Orthopedic
CartiHeal (PMA)	bioventus (NAS:BVS)	Orthopedic
Perflow Medical (510(k))	An unnamed investor	Vascular
PlusDental[2]	straumann	Oral

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.

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	6.1
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.

2021 M&A Shows Depth and Breadth – Can it Continue?

We noted an uptick in M&A activity in 2021, with a wide array of acquirers across a myriad of indications. Acquirers included small/mid-caps (SeaSpine, Neuvasive, Axonics and Hill-Rom), spin-outs (Organon), China-based companies (Venus, Sanyou, Microport) and even consumer retail (Best Buy).

This robust acquisition group is good news for the device industry – although we wonder if small/mid-cap acquirers will remain active as they deal with depressed public market valuations.

Acquirers of Venture-Backed Companies by Top Indications 2019-1H 2022

	2019	2020	2021	1H 2022*
Surgical	icumedical, MISONIX, Johnson & Johnson	BARD, Medtronic	HOLOGIC, HAEMONETICS	Integer
Orthopedic	rti surgical, Boston Scientific, stryker	ANIKA	Johnson & Johnson, NUVASIVE, SeaSpine, SANYOU	bioventus, CONMED
Cardiovascular	Medtronic, Abbott		ABIOMED, Boston Scientific, VENUSMEDTECH	Medtronic
Vascular	INTEGRA	Medtronic, PHILIPS	PHILIPS, Boston Scientific, BD	Undisclosed Buyout Investor
Uro/Gyn	MERIT MEDICAL	HOLOGIC, Coloplast	Axonics, ORGANON	
Imaging	stryker	intersect ENT, OLYMPUS	HOLOGIC, OLYMPUS	
Respiratory	Hillrom, inogen	ABIOMED	MicroPort	
Neuro	PACIRA	astellas, Medtronic	ZOLL	
NIM	Baxter		BEST BUY, Boston Scientific, Hillrom	

*2022 Data through 3/31/2022; Source: PitchBook and SVB proprietary data.

Exits/Investments Healthcare Ratio Consistent and Attractive in Device

Ratio calculated as:

Exits (Mkt Cap at IPO + Pvt M&A**)

$s invested into US + Europe Venture Deals

Ratio In Other Healthcare Sectors:

	'18	'19	'20	'21	1H '22
Biopharma	2.8x	3.1x	3.6x	2.4x	0.9x
Dx/Tools	0.7x	1.6x	2.6x	3.1x	0.9x
HealthTech	1.6x	2.1x	0.8x	1.6x	0.1x

**Note that Device had the largest percentage of exit dollars from M&A.

Device Ratio of Exits to Investments 2018 – 2021

Years	VC-Backed Exit Value[1] in Device ($M)	VC Investment in Device ($M)	Exit/Inv Device Ratio
2018	$7,600	$4,700	1.6x
2019	$13,000	$4,800	2.7x
2020	$14,000	$5,400	2.6x
2021	$27,000	$8,800	3.1x
1H 2022	$1,900	$4,580	0.4x

Note: 1) Exits comprised of venture-backed companies that have a private M&A of at least $75M (biopharma) or $50M (device, dx/tools and healthtech) upfront or an IPO raising at least $25M in proceeds. VC Exits* represent total private M&A deal value plus market cap at IPO. Source: PitchBook, Capital IQ, SVB proprietary data

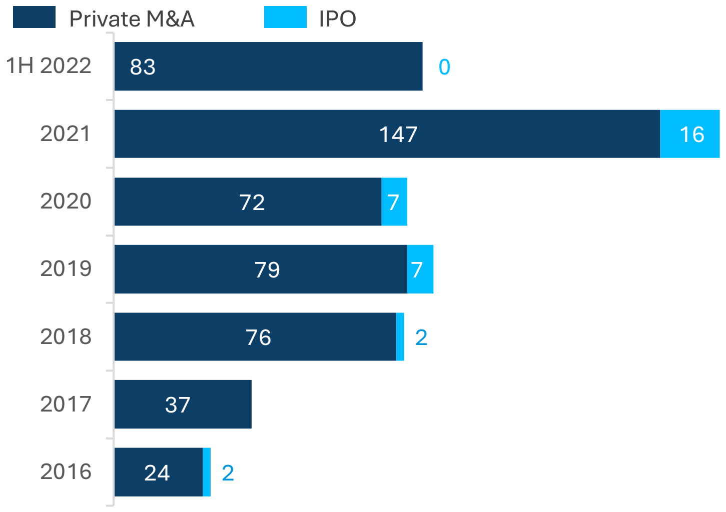
HealthTech IPOs Halt; Uncertain M&A Pricing

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.

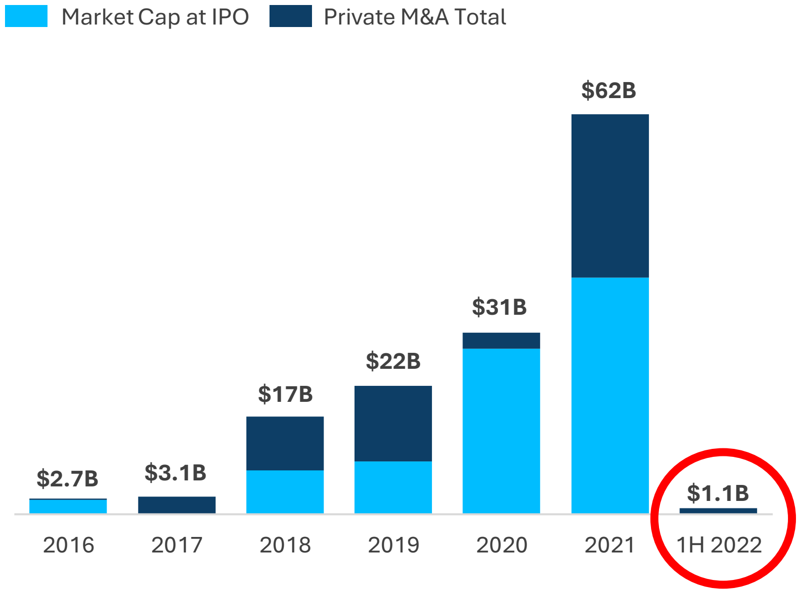
As markets correct from 2021 levels, we noted only five publicly-disclosed $50M+ deals in 1H 2022 vs. 33 in 2021. Median acquisition prices were significantly down, hitting lows not seen since 2017. Acquirers struggled with valuation disconnect, driven by the big step-ups and resulting lofty post money 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.

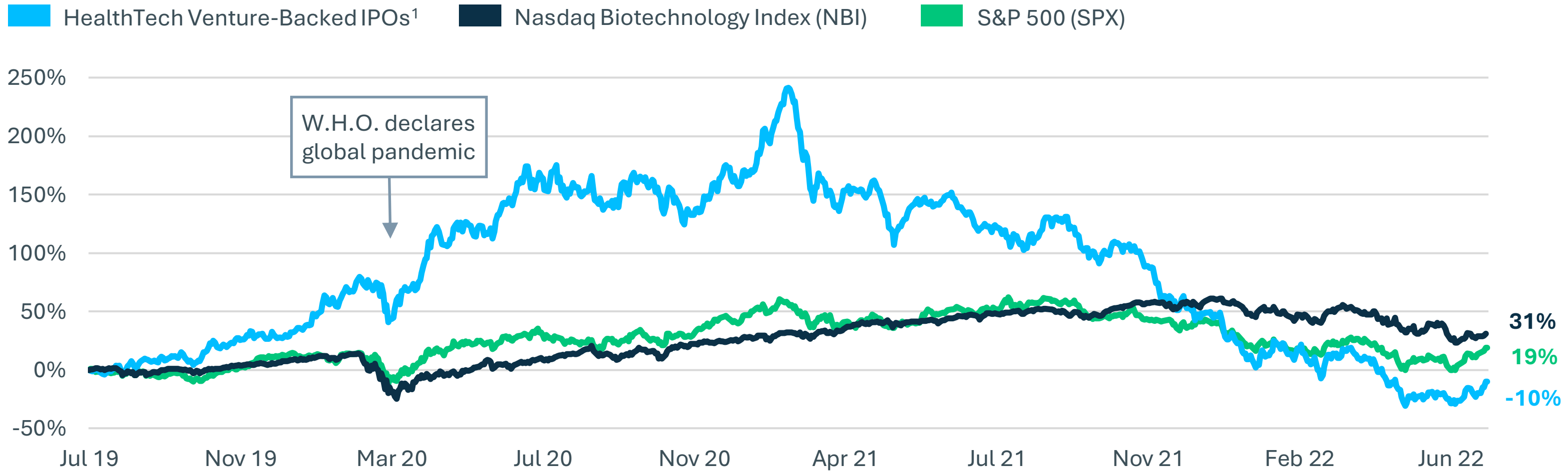
HealthTech Private M&A Deals and IPOs by Year



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

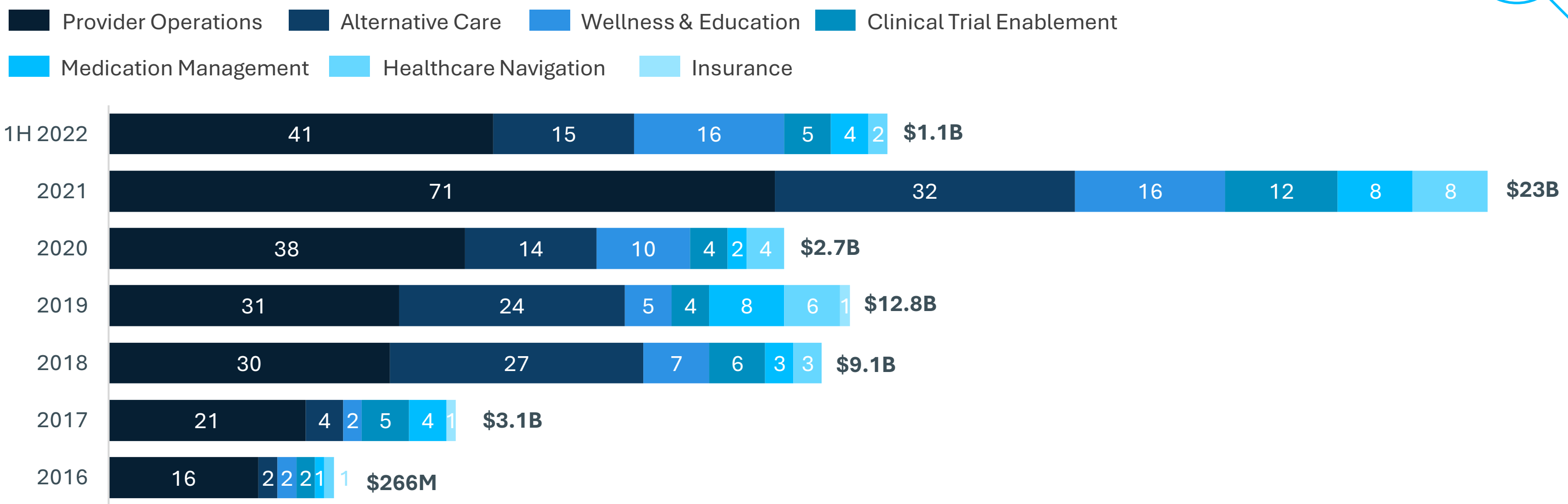
M&A deal activity in healthtech started strong in Q1 but tapered off in Q2 2022, falling 36% quarter over quarter. We expect M&A volume to be slightly down in 2H 2022, with yearly totals behind 2021's record pace.

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 PIPEs[3] (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

1H 2022 Notable M&A Deals

higi, The GP Service, dadi, Snapmed, VISIT	Alternative Care
glic, TICTRAC by Dialogue, symbiome	Wellness & Education
Cardiac Insight, PlusDent, Caravan Health, Analytical Wizards, iPG	Provider Operations
BetterDoc, phc Preferred Health Care	Healthcare Navigation

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.

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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.

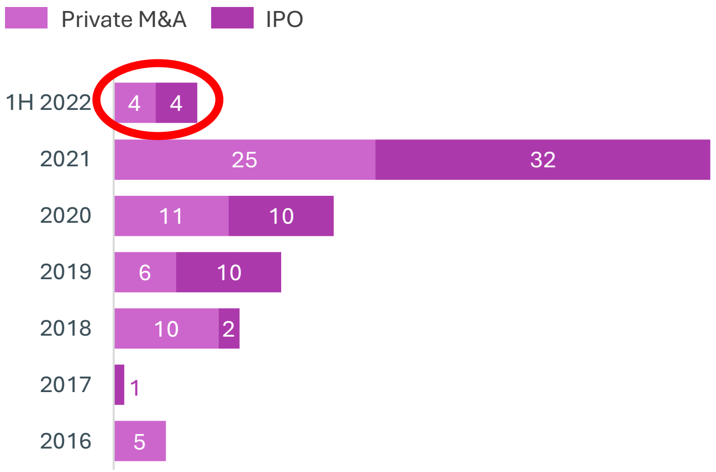
The IPO class of 2019 was led by two top-performing Shanghai R&D tools companies Pharmaron Beijing (up 1147%) and Shanghai Medicilon (up 758%), which helped boost the average post-IPO performance for this class to +181% through 1H 2022. However, over the past 12 months we noted significant market cap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

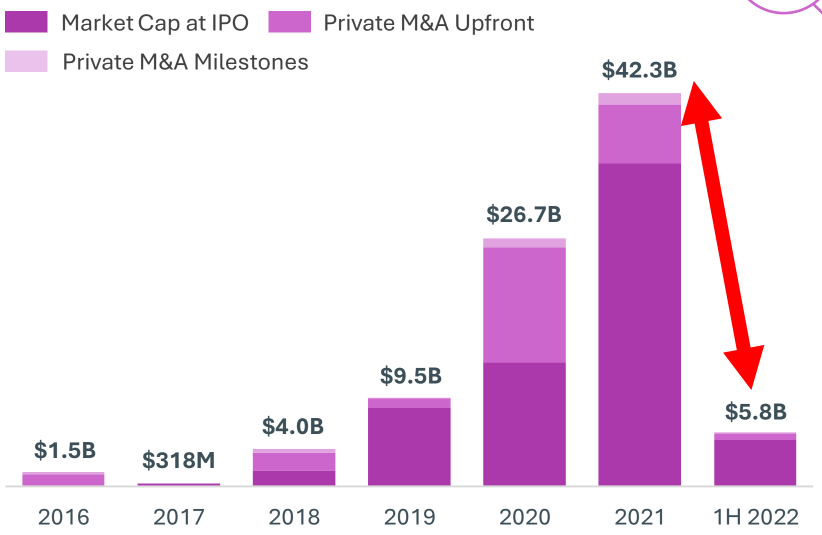
The IPO class of 2021 was hit the hardest by the end of 1H 2022. Of the 32 IPOs, there were only four in positive territory and 17 were down more than 70% (including seven dx tests companies).

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

	Mabwell Therapeutics, Inc.	GemPharmatech	OCTANT	仁度生物 Rendu Biotechnology
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.

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

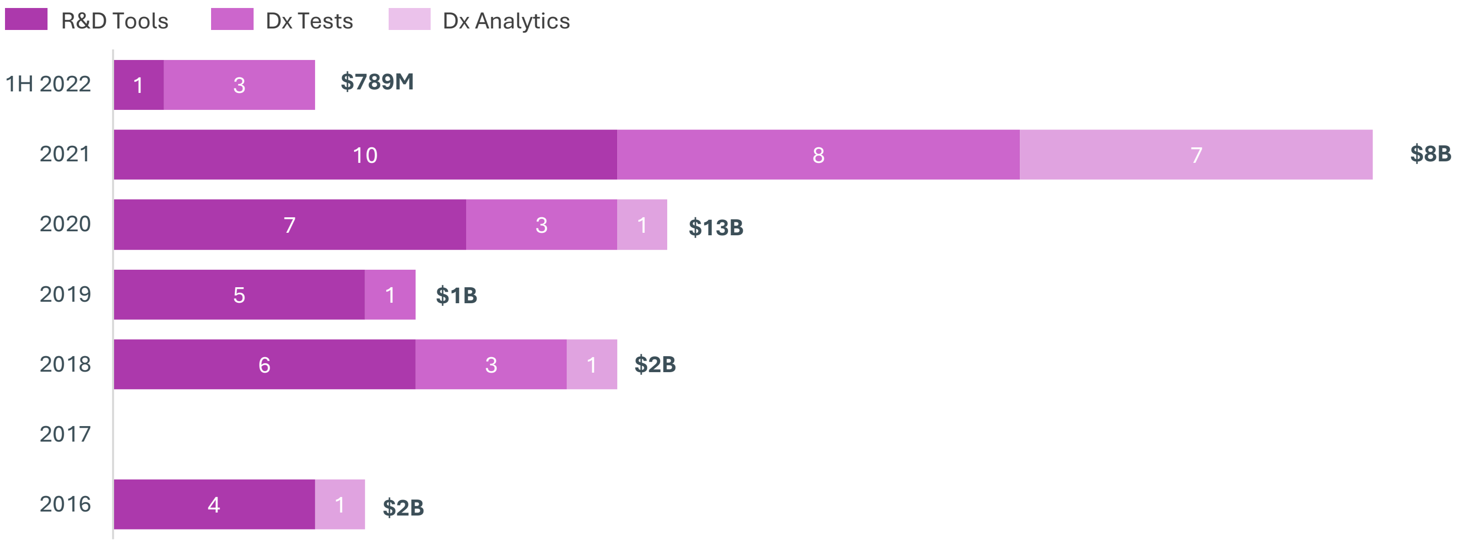
Private venture-backed dx/tools companies experienced lots of positive M&A activity in 2020 and 2021, with three $1B+ total deal value exits in 2020 (GRAIL, ArcherDX and Thrive Earlier Detection) and a record 25 acquisitions in 2021.

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

1H 2022 M&A Deals

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.

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.

All predictions made are based on previous data trends, which have been quoted accordingly.
Source: SVB proprietary data.

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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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