

svb



Silicon Valley Bank

Healthcare Investments and Exits

New Records for Healthcare Fundraising,
Investments and Exits in 2020

Biopharma | HealthTech | Dx/Tools | Device

Follow @SVB_Financial Engage #SVBHealthcare



Table of Contents

3	Market Highlights
5	Venture-backed Investments
22	China Spotlight
25	Venture-backed Exits
37	2021 Outlook and Beyond



Healthcare Investments: Full-Year 2020

Innovation Drives Strong Healthcare Investment

A strong IPO environment, plus an upswing in private M&A, propelled a fourth straight record year in healthcare venture capital (VC) fundraising. 2020 VC fundraising far exceeded 2019's record with an unprecedented \$17B in new venture funds dedicated to healthcare.

Healthcare company investment surged more than 47% from 2019 to set a new high at \$51B. Every sector experienced record investment this year. Q3 2020 set a highwater mark of \$15B+, the largest venture-backed healthcare quarter ever recorded.

Biopharma Series A deals and dollars increased significantly versus 2019. Corporate venture activity was also up, participating in more than one-third of all US Series A deals. Overall, biopharma investment set a record for both deals and dollars, helped by the fast pace of mezzanine financings. There were 93 large crossover-backed deals ("LIPO+ deals") closed in 2020, and 33 (35%) have already completed IPOs. For this group of deals, median time from mezzanine round to IPO was just three months.

HealthTech investments set a new record this year with three subsectors crossing \$1B+ total raised: alternative care (\$5.9B), provider operations (\$3.7B) and clinical trial enablement (\$2B). The sector recorded three times more \$100M+ mega-rounds than 2019 and a 16% increase in median Series A deal size.

While device Series A investment was down, overall investment was up in 2020. Neuro and non-invasive monitoring (NIM) each nearly doubled 2019 device investment.

Testing and discovery technologies from venture-backed dx/tools companies took center stage during the COVID-19 pandemic. Series A investment was flat, but overall investment dollars spiked across all three subsectors and more than doubled for R&D tools.

SVB US Market Stats*



53%

of all VC-backed US healthcare companies that raised rounds in 2020 have a banking relationship with SVB.



64%

of all VC-backed US healthcare companies that raised mega-rounds** in 2020 have a banking relationship with SVB.



*SVB Market Stats composed of VC-backed healthcare companies that raised at least \$4M in financing in 2020. **Mega rounds defined as round size of \$50M or more. *The LIPO (Likely to IPO) List tracks Top 15 Crossover funded mezzanine deals (\$40M+) as a proxy for IPO sentiment and pipeline. 2020 statistics represent SVB commercial bank clients and are compiled through 12/23/20. Sources: PitchBook and SVB proprietary data.

Healthcare Exits: Annual Full-Year 2020

IPOs Lead Exit Activity; Large Private M&A Deals Resurface

IPOs across each sector either set or tied annual highs. These IPOs yielded record valuations then exceptional post-IPO performance. Large upfront payments drove private M&A in biopharma and dx/tools. In 2020, we saw four of the top 10 biggest upfront payments in private M&A deals since 2005, with GRAIL's \$8B acquisition by Illumina leading the pack.

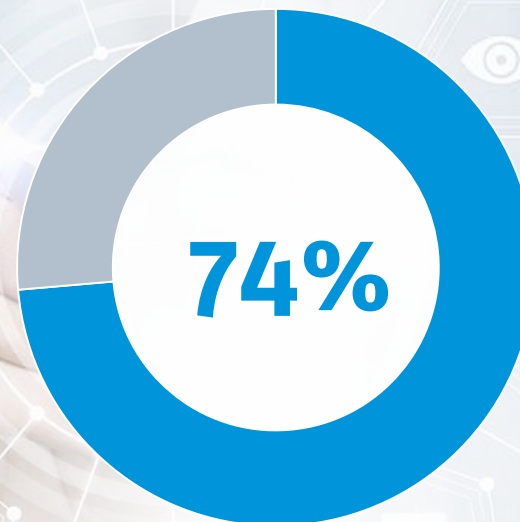
Biopharma achieved new peaks in terms of number of IPOs, pre-money valuations and dollars raised. Biopharma private M&A bounced back from a down year in 2019, with increased upfront values. In Q4, there were two \$2B+ private take outs soon after large mezzanine rounds, providing evidence of big biopharma paying up to usurp venture-backed company IPOs in favor of early-stage acquisitions.

In 2020, the market cap of venture-backed healthtech companies at IPO totaled \$9.8B. This year's class of IPOs was roughly twice as valuable as 2019's. Alternative care led all subsectors with a 2020 median post-IPO performance of +92%. For private M&As, 2020 was relatively stable versus 2018 and 2019.

Dx/Tools built upon its strong 2019 IPO class with IPO valuation growth in 2020. Six of nine dx/tools IPOs went public at \$1B+ valuations this year. Average post-IPO performance for 2019 and 2020 IPO classes have both exceeded +100%. We also saw big venture-backed acquisitions, with three private \$1B+ M&A deals in 2020; one in R&D tools and two for early-stage cancer detection.

The device sector seemed to be the most severely affected by the pandemic due to trial delays and decreased revenues. Despite these challenges, the sector increased the number of IPOs in 2020 and set device IPO records for median pre-money IPO valuation and IPO dollars raised. Nine of 11 device IPOs were trading up at year-end. These IPOs achieved an average post-IPO performance of +150%, tops among all healthcare sectors in 2020.

SVB US IPO Market Stats



of all VC-backed healthcare IPOs in the past three years have a banking relationship with SVB*.



Healthcare Investments US and Europe

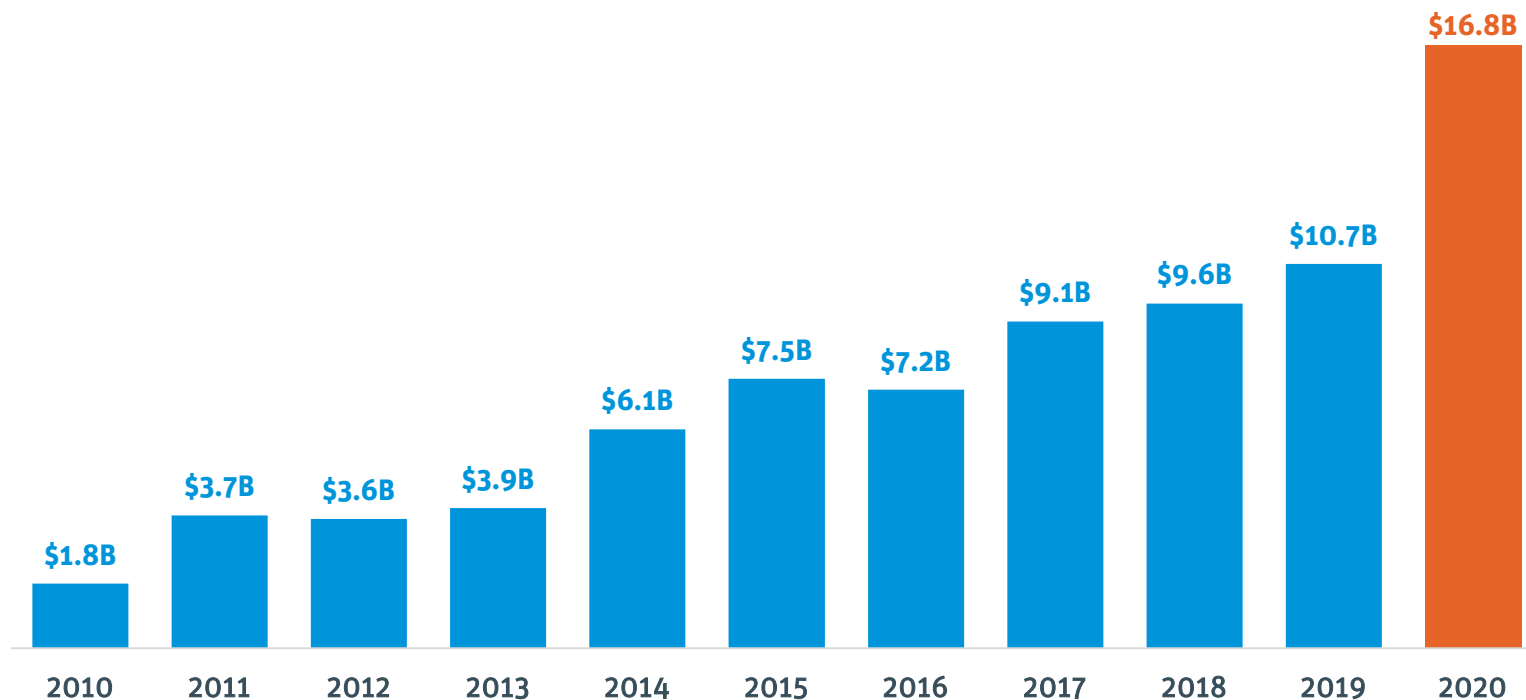
Healthcare VC Fundraising Skyrockets to \$16B+ in 2020

The frothy IPO environment, plus strong private M&A activity across multiple sectors, propelled a fourth straight record year in healthcare venture capital (VC) fundraising.

Big step-ups into mezzanine (mezz) rounds quickly flowed into IPOs and, more importantly, sustained performance in the aftermarket. Quick early-stage biopharma M&A deals have been augmented by multiple \$1B+ buyouts of private dx/tools deals. These positive trends provided substantial TVPI* and DPI* growth, enabling this sustained market.

2019–2020 showed the biggest year-over-year growth in fundraising (57%) since 2011. Many firms increased their fund size, and early-stage investors raised opportunistic later-stage funds. The number of life science-only funds in 2020 versus 2019 were the same (28 each), but median deal size was ~2x higher (\$415M versus \$217M). Newer funds with savvy veteran investors include DCVC Bio, Westlake and Define. We also observed a huge upswing in healthcare SPACs by VC and hedge funds (~\$2B), although not counted in this VC fundraising data.

US Healthcare Venture Capital Fundraising 2010–2020



Notable Venture Funds** Closed in 2020

ANDREESSEN
HOROWITZ

COWEN
HEALTHCARE
INVESTMENTS

Flagship
Pioneering

Longitude
CAPITAL

RACAPITAL

ARCH
VENTURE
PARTNERS

DEI Bio

FRAZIER
HEALTHCARE PARTNERS

NEA

SR One

venBio

ATLAS VENTURE

DEERFIELD[®]
Advancing Healthcare[®]

Lightspeed

QUESTA
CAPITAL

WESTLAKE VILLAGE
BIOPARTNERS

*TVPI is defined as the ratio of the current value of fund investments plus distributions to date divided by the total amount of capital invested to date; DPI is defined as the ratio of the money a VC fund has returned to limited partners divided by the total amount of capital invested to date. **Notable venture funds based on largest estimated allocation to healthcare. SPAC stands for special purpose acquisition company. 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. Source: PitchBook and SVB proprietary data.

Q3 Investment Surge Propels Healthcare to a Record \$51B

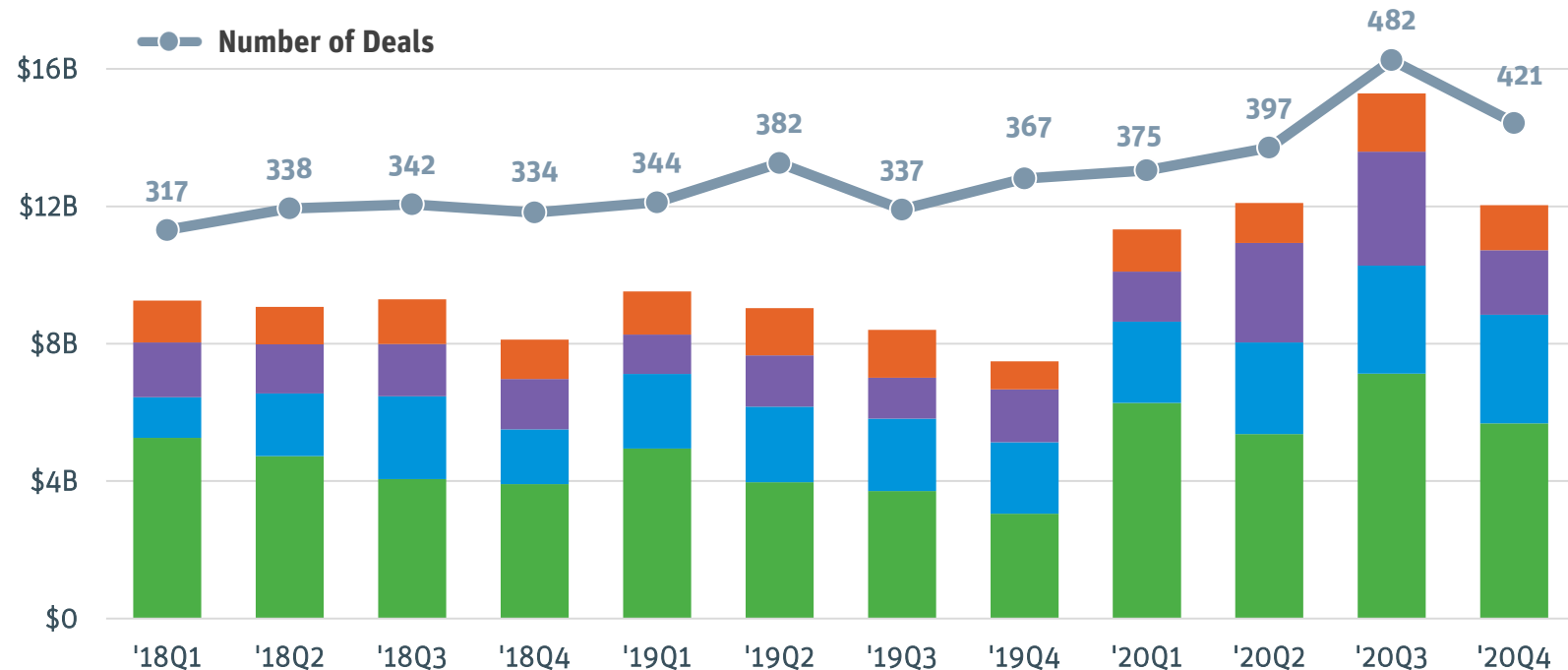
We saw a 50% jump in venture capital investment into companies from 2017–2018 and a small decrease in 2019. In 2020, we saw another investment surge of more than 47% to set a new healthcare investment high at \$51B.

Despite being in lockdown due to the pandemic, we saw noteworthy deal and dollar growth in Q2 2020. This demonstrated the resilience of healthcare, which is a tightly networked industry with many repeat entrepreneurs. The industry continued to complete deals, even without face-to-face interactions.

Every sector experienced record investment this year. Q3 2020 set a highwater investment mark of \$15B, the largest healthcare investment quarter ever recorded.

Venture-backed dx/tools and biopharma sectors were bright spots in battling the pandemic, with many venture-backed companies leveraging their technologies to develop COVID-19 tests and treatments. These two sectors showed the largest increases in investment versus 2019. HealthTech was thrust into the spotlight by the shift toward virtual care due to shelter-in-place restrictions.

VC Dollars and Deals by Healthcare Sectors US and Europe



Sectors (\$M)	2018			2019			2020*		
	US	Europe	Total	US	Europe	Total	US	Europe	Total
Biopharma	15,147	2,814	17,961	12,552	3,132	15,684	19,776	4,681	24,457
HealthTech	6,439	575	7,014	7,077	1,467	8,544	9,962	1,382	11,344
Dx/Tools	5,391	629	6,020	4,443	940	5,383	7,953	1,598	9,551
Device	4,134	609	4,743	3,953	883	4,836	4,832	569	5,401
Total	31,111	4,627	35,738	28,025	6,422	34,447	42,523	8,230	50,753



Series A Deals Bounce Back; Activity Ramps in Neurology

2020 Series A deals and dollars increased significantly versus 2019, and median deal size grew slightly from \$10M to \$13M. Corporate venture activity picked up, participating in more than one-third of all US Series A deals. European Series A investment also spiked, almost doubling 2019 dollars to \$1.1B in 2020.

Compared to other indications, neurology Series A deals saw the largest increase, jumping over 6x in dollars and 55% in funded deals.

Orphan/Rare deals and dollars plummeted. IPOs were stable (six orphan/rare IPOs in both 2019 and 2020). However, post-IPO performance was down for the class of 2020, and was also significantly lower than other indications. Despite this Series A drop-off, there is still a sizable backlog of Series B mezz-funded orphan/rare deals.

Anti-infective Series A activity was slightly up, though not as much as expected given the heightened focus of COVID-19 and excellent 2020 IPO activity in this indication (seven IPOs, +121% average post-IPO performance).

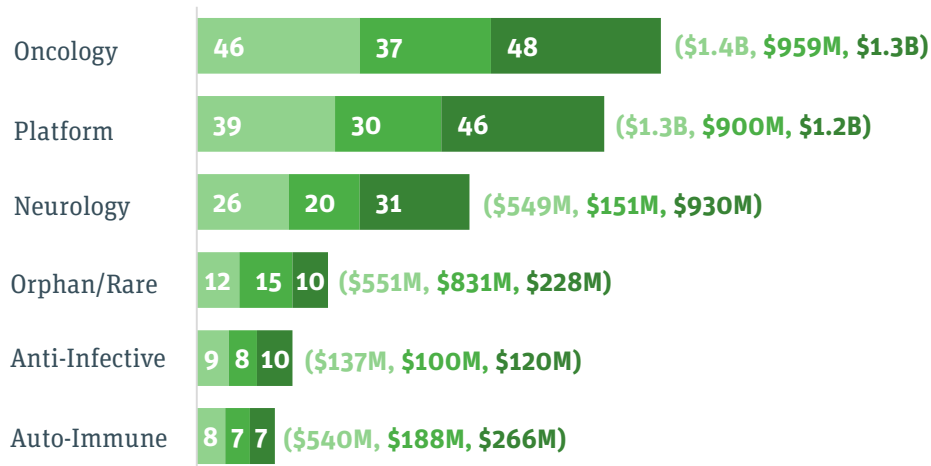
Top 15 Crossovers increased Series A activity, closing 12 LIPO* deals; one (Legend) is now public.

Series A Biopharma Deals US and Europe

		2018	2019	2020
Number of Investments	US / Europe	131 / 43	116 / 43	133 / 58
	Total	174	159	191
Total Funding (\$M)	US / Europe	\$4,392 / \$768	\$3,062 / \$637	\$3,770 / \$1,120
	Total	\$5,160	\$3,699	\$4,890
Corporate Investments	US / Europe	26% / 26%	32% / 33%	35% / 17%

Series A Deals and (Dollars) by Top Indications

■ 2018 ■ 2019 ■ 2020



Top 2020 Series A Deals



Company went public

*The LIPO (Likely to IPO) List tracks Top 15 Crossover funded mezzanine deals (\$40M+) as a proxy for IPO sentiment and pipeline. Financing data are compiled through 12/23/20. 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. Source: PitchBook and SVB proprietary data.

Led by LIPO Deals, Biopharma Hits \$24B Record Investment

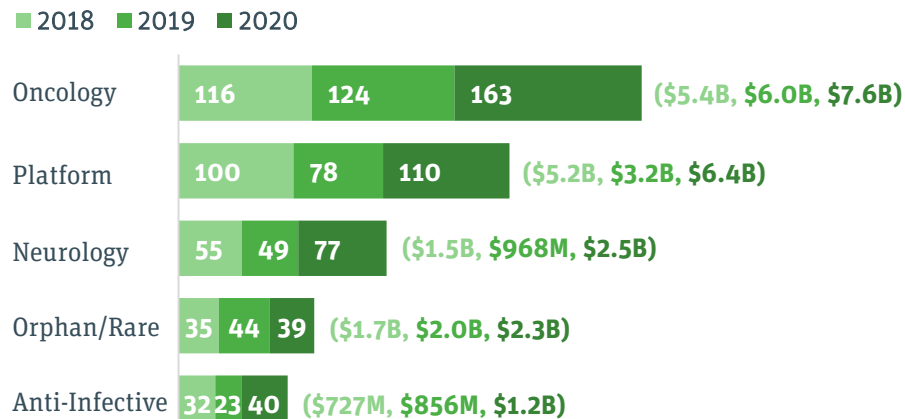
Investment in biopharma set a record in 2020. Neurology saw the largest jump in funding (+155% from 2019), helped by four \$100M+ deals; two early-stage (Arvelle and AavantiBio) and two later-stage (Praxis and ATAI Life Sciences).

Platform companies (programs targeting multiple indications at the same clinical stage, or early pre-clinical with multiple assets) saw a sharp increase from 2019, led by huge rounds by Roivant (\$1B), CureVac (\$633M) and Sana (\$435M). In addition, we saw an increase in LIPO platform deals, likely due to the hot early-stage IPO market. Nineteen platform LIPO financings closed in 2020, totaling \$2B. Six are now public.

Anti-infective investment was up, mostly in Series B or later deals. Two of the three largest private deals are now public (Atea and Vaxcyte).

Of the 93 LIPO* deals closed in 2020, 33 (35%) went public in the same year. From this group, the median time from mezz to IPO was just three months. The median step-up from venture post to mezz pre was 1.4x (slightly lower than 2019 LIPO deals), and the step-up from mezz post to pre-money IPO was 1.4x (slightly higher than 2019).

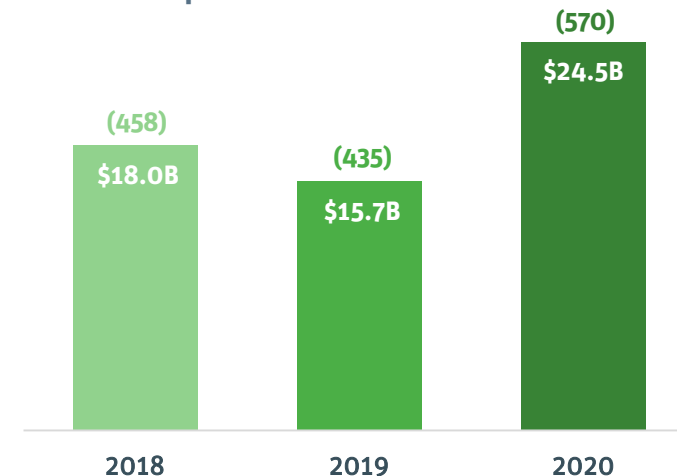
Biopharma Deals and (Dollars) by Top Indications US and Europe



2020 LIPO Deals That Have Gone Public This Year



Total Dollars and (Deals) US and Europe



2020 Highest Valued Private Companies**

ROIVANT SCIENCES	Platform	\$9,000M post
Sana Biotechnology	Platform	\$2,765M post
Lyell	Oncology	\$2,493M post
LEGEND BIOTECH	Oncology	\$2,101M post
alvotech	Platform	\$1,500M post
RECURSION	Neurology	\$946M post
ATEA	Anti-Infective	\$940M post
POSEIDA THERAPEUTICS	Oncology	\$740M post

Company has since gone public

*The LIPO (Likely to IPO) List tracks Top 15 Crossover funded mezzanine deals (\$40M+) as a proxy for IPO sentiment and pipeline. **Only includes private post-money values from publicly disclosed 2020 financings in PitchBook. Financing data are compiled through 12/23/20. 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. Source: PitchBook and SVB proprietary data.


































Crossover Investment Swells; Massachusetts Leads Deals/\$s

Crossover investors continued to dominate new investor activity, claiming six of the top 10 spots. Based on healthcare investment activity, we updated our Top 15 Crossover list. Arrowmark, BVF, Foresight and Tavistock dropped off, replaced by Janus, Logos, Viking and Wellington Management.

Biopharma had more China-headquartered investor activity than any other healthcare sector. Over the last two years, about 14% of US/European biopharma deals had a China-headquartered investor in their syndicate group, and these deals comprised 23% of total biopharma funding. Most were large, later-stage mezz financings (72%). The most active China-headquartered groups this year included Lilly Asia Ventures, Morningside and WuXi AppTec, and the most active US-headquartered funds with China affiliates included Qiming USA and Pivotal bioVenture Partners (Nan Fung).

By geography, Massachusetts dominated biopharma deals and dollars in 2020, both overall and in Series A (all deals: 132/\$6.5B; Series A: 38/\$1.4B). Northern California was second at about half the volume (72/\$4.3B; 20/\$705M), followed by Southern California (50/\$2.3B; 18/\$424M) and New York (33/\$2.6B; 15/\$471M).

Most Active New Biopharma Investors* Number of Deals (US and Europe, 2019–2020)

Venture Capital Investor		Corporate Investor		Later-Stage/Crossover Investor	
24	 SAMSARA BIOCAPITAL	37	 ALEXANDRIA	38	RACAPITAL
23	 HBM Partners	18	 G/ NOVARTIS	30	 CORMORANT ASSET MANAGEMENT
21	 OrbiMed  novo holdings	16	 Pfizer	29	 CITADEL
15	 ARCH Venture Partners	14	 Joffe INNOVATION	25	 CASDIN CAPITAL LIFE SCIENCE INVESTMENTS
13	 PIVOTAL BIOVENTURE PARTNERS venBio	10	 EVENTIDE leaps	24	Janus Henderson INVESTORS
12	 OMEGA FUNDS  polarispartners  VIVO CAPITAL  OSAGE UNIVERSITY PARTNERS  SOFINNOVA INVESTMENTS	8	 abbvie  Lilly  Boehringer Ingelheim  SANOFI	23	BOXER CAPITAL TAVISTOCK GROUP
				21	 PERCEPTIVE ADVISORS
11	 nextech  VIDA ventures	7	 ACCESS BIOTECHNOLOGY  药明康德 WuXi AppTec  PARTNERS HEALTHCARE	20	 INVUS Redmile Group
10	 MPM NEA  MORNINGSIDE				 LOGOS CAPITAL



CipherBio-Driven Deep Dive: Early-Stage Neurology Analysis

CipherBio is a life-science data platform that provides insights to investors and entrepreneurs. Neurology investment spiked substantially in 2020, and we used this platform to dive into early-stage neurology activity over the last two years. Alexandria and Perceptive Advisors were the most active investors, with portfolios covering a broad range of indications. Other investors focused on specific areas; Samsara, RA and Orbimed each closed four deals in orphan/rare, while Dementia Discovery Fund invested in neurodegenerative disease companies exclusively.

CipherBio's combination of funding and science data allows users to breakout the top indications and approaches by deals and dollars. Orphan/rare attracted the most deals and dollars, led by a huge \$235M deal from AskBio (acquired by Bayer for \$4B in Q4 2020). Next were neurodegenerative diseases (Alzheimer's and Parkinson's), primarily targeted with small molecule, neuroprotective drugs. Notably, despite fewer deals, psychiatric disorders had the highest count of companies with assets in clinical trials (62%). Pain (chronic/neuropathic) also made the top indication list, with most deals developing non-opioid analgesics and anti-inflammatories.

CipherBio Biopharma Neurology Insights US and Europe, (2019–2020)



Orphan/Rare Activity Leads Neuro Investment since 2019

































































In 2019–2020, we saw an uptick in funding for neurology-focused orphan/rare (NOR) companies. Using CipherBio data, we created a landscape for NOR deals, which comprised \$2.4B (51%) of \$4.7B total neurology Seed, Series A and B dollars. NOR matched neurodegenerative diseases in number of deals (66 vs. 65) but boasted a 76% larger median deal size (\$30M vs. \$17M). There was extensive exit activity in deals with NOR assets, with IPOs from PassageBio, SpringWorks, Prevail and Taysha (three went public at pre-clinical stage) and a big M&A (AskBio).

The companies on this list are closely split between targeting a single or multiple NOR indications (31 vs. 25). Seven companies target more than one Top Indication, with either a single asset (Connecta, Libra, Prilenia and Scribe) or multiple assets (Locana, Passage and Taysha).

To target NOR, about half of these companies (26, 46%) are developing small molecule drugs, which often act as protein modulators (e.g. enzyme inhibitors, receptor agonists/antagonists). In 2019–2020, we saw the most dollars (\$1.4B) for gene therapies that use adeno-associated viruses to deliver or knockout genes of interest.

Biopharma Neurology Orphan/Rare Financings: 56 Companies, 65 Deals

Seed, Series A, and Series B Deals

Deal Size: <\$20M		\$20M–\$39M		\$40M–\$59M		\$60M–\$79M		\$80M+		
2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	
     	    	       	       	    	     	     	      	   	    	   

Clinical Stage of Most Advanced NOR Program (No Box = Pre-clinical):

Phase 1

Phase 1 Complete

Phase 2

Phase 3

Clinical Stage of Most Advanced NOR Program (No Box = Pre-clinical):
















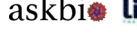




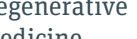








Phase 1

Phase 1 Complete

Phase 2

Phase 3

Top Indications: Deals and Dollars

Indications	Dollars (Deals)	Company
ALS	\$718M (16)	       
Huntington's Disease	\$534M (9)	      
Rett Syndrome	\$233M (7)	     
Fragile X Syndrome	\$275M (6)	    
Krabbe Disease	\$279M (5)	  

Top Modality & Targets Deals and Dollars

Modalities	Protein Modulation	29	\$940M
	Small Molecule	26	\$827M
	Gene Therapy	18	\$1.4B
	Neuroprotective	8	\$159M
	Regenerative Medicine	5	\$49M
Targets	Galactosylceramidase	5	\$279M
	Beta-Galactosidase	4	\$239M
	Nogo-A	3	\$15M
	Mitogen-activated protein kinase	2	\$145M
	Histone deacetylase	2	\$60M

*Companies closed two seed, Series A or Series B financings during 2019–2020. CipherBio financing data is based on publicly-disclosed data from press releases or SEC Form Ds. Current clinical stages are updated as of Q4 2020. Company indications and approaches are based on publicly-disclosed programs and may not be comprehensive. Source: [CipherBio](#)

Larger Series A Rounds; Alt. Care Leads w/ \$500M+ Raised

In 2020, healthtech Series A deal volume declined 6%, while total Series A funding increased 14% versus 2019. The 16% increase in median Series A deal size may have been driven by companies seeking to raise additional capital to weather the COVID-19 pandemic.

The rapid acceptance of virtual care has validated the alternative care (AC) subsector, with virtual care companies raising 77% (\$406M) of AC's total Series A funding this year.

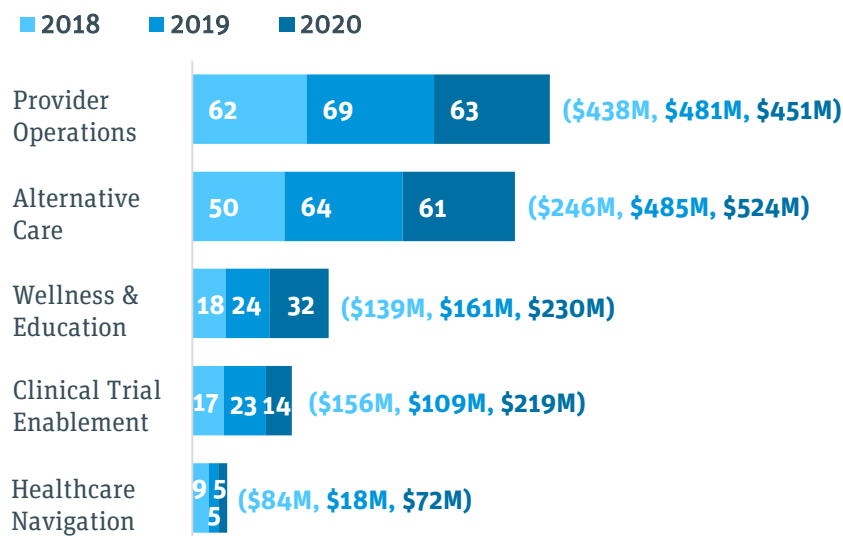
In-person clinics have now adopted virtual care services as well, resulting in a hybrid care* modality, which accounts for 15% of the total AC Series A financings in 2020. Two examples of hybrid primary care companies that went public this year are One Medical (\$ONEM, +212%) and Oak Street Health (\$OSH, +191%).

This year, New York led healthtech's Series A deal count with 31 deals (\$233M), while Massachusetts led in Series A investments (16 deals, \$273M). Northern California took second place for both Series A deals and dollars (30 deals, \$241M).

Series A HealthTech Deals US and Europe

		2018	2019	2020
Number of Investments	US / Europe	125 / 40	161 / 35	131 / 54
	Total	165	196	185
Total Funding (\$M)	US / Europe	\$897 / \$215	\$1,121 / \$225	\$1,171 / \$367
	Total	\$1,112	\$1,346	\$1,538
Corporate Investments	US / Europe	19% / 18%	16% / 17%	15% / 6%

Series A Deals and (Dollars) by Top Indications



Top 2020 Series A Deals



*Hybrid care is defined as companies that provide a combination of virtual and in-person care. **These companies overlap with other device and dx/tools sectors and are included in both sets of analyses. 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. Financing data are compiled through 12/23/20. Dates of financing rounds are subject to change based on add-on investments. Source: PitchBook, Capital IQ, SVB proprietary data and [SVB HealthTech Report](#).

3.5x More \$100M+ Rounds; Clinical Trial Enabl. Hits \$2B

This year, 42 \$100M+ mega-rounds accounted for 42% of the total \$15.3B raised in healthtech (vs. 12, 28% of total in 2019). Q3 2020 was a record quarter with 13 \$100M+ accounting for 52% of the total \$4.6B raised (outpacing the previous record quarter, Q2 2020, by \$1.2B).

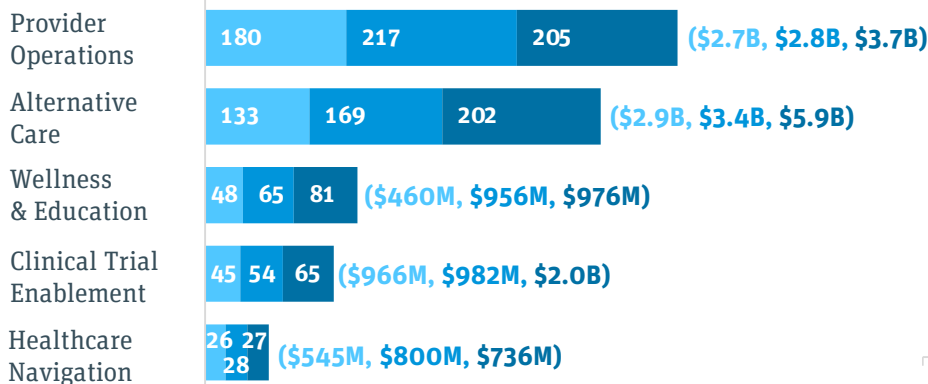
In 2020, alternative care (AC) accounted for 39% of total healthtech investments, led by primary care (66 deals, \$2.5B), mental health (42 deals, \$939M) and platform care (15 deals, \$814M).

AC saw the most mega-rounds this year (18, 42% of total subsector investment), followed by clinical trial enablement (CTE) (8, 54%) and provider operations (PO) (8, 29%).

CTE saw a 58% increase in funding from Q2 to Q3 2020. This may have been driven by the COVID-19 pandemic, which challenged players in the drug discovery and clinical trial spaces to adopt products from emerging CTE companies. Schrödinger (\$SDGR, +366%, drug discovery), is a notable CTE company that has a strategic partnership with Google's cloud computing platform to screen COVID-19 antivirals.

HealthTech Deals and (Dollars) by Top Subsectors US and Europe

■ 2018 ■ 2019 ■ 2020

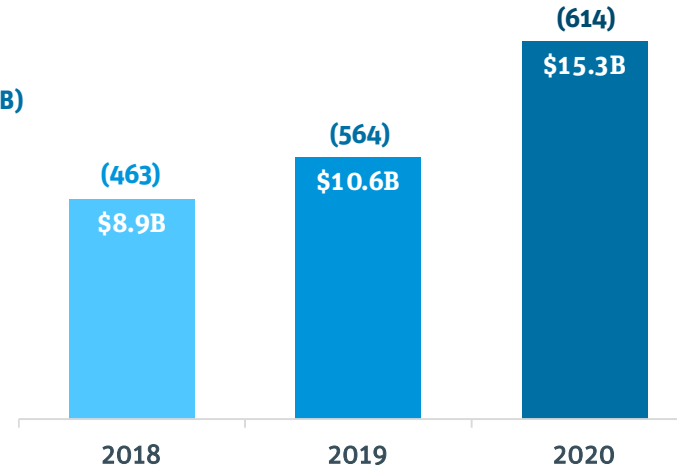


Top 2020 Deals*



Company has since gone public

Total Dollars and (Deals) US and Europe



2020 Highest Valued Private Companies**

bright HEALTH	Insurance	\$4,000M post
Calm	Health & Wellness	\$2,000M post
Doctolib	Healthcare Navigation	\$1,797M post
Olive	Provider Operations	\$1,500M post
ro	Alternative Care	\$1,500M post
GRAND ROUNDS	Healthcare Navigation	\$1,340M post
WHOOPI	Health & Wellness	\$1,200M post
virta	Alternative Care	\$1,100M post

Other 2020 \$1B+ companies were Sema4 (\$1.1B), Lyra Health (\$1.1B), Cityblock Health (\$1B) and MD Live (\$1B).

*These companies overlap with biopharma, dx/tools, and device sectors and are included in both sets of analyses. Financing data are compiled through 12/23/20. **Only includes private post-money values from publicly disclosed 2020 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. Source: PitchBook, Capital IQ, SVB proprietary data and [SVB HealthTech Report](#).

New VCs Focus on Later-Stage Alternative Care Deals

Venture capital (VC) investors on this page have skewed toward Series B or later-stage financings 57% of the time. Alternative care (AC) has drawn the most later-stage deals (\$2.3B across 71 deals).

Like VCs, corporates favored Series B or later-stage rounds 64% of the time, with provider operations (PO) (\$998M across 36 deals) and AC (\$950M across 29 deals) seeing the most deal activity.

Unlike other sectors, only 3% of healthtech deals (37/1,178) had a China-headquartered investor in their syndicate group; these deals comprised only 7% of total healthtech funding.

Massachusetts and New York have seen the most deal growth since 2019, increasing by 35% and 31%, respectively.

European companies received 21% of the healthtech deal flow in 2020. The UK had the most activity (all deals: 41/\$418M; Series A: 12/\$67M), followed by Germany and France.

Most Active New HealthTech Investors* Number of Deals (US and Europe, 2019–2020)

Venture Capital Investor				Corporate Investor	
13	8VC		Bessemer Venture Partners	17	BlueCross BlueShield
11	OAK HC/FT	DEFINE VENTURES	COLLABORATIVE fund	14	OPTUM VENTURES
10	DEERFIELD Advancing Healthcare®	TIGERGLOBAL	CORRELATION VENTURES	10	Alphabet
8	GENERAL CATALYST	GREYCROFT	Felicitas Ventures	9	UnityPoint Health Ventures
		khosla ventures	Frist Cressey Ventures	8	MemorialCare Innovation Fund
			LRVHEALTH	8	PHILIPS
			maveron	7	echo HEALTH VENTURES
			MERIDIAN CAPITAL	7	McKESSON
			PERCEPTIVE ADVISORS		Cigna
			SEQUOIA	6	MAYO CLINIC
			town hall VENTURES	6	OSF HEALTHCARE
7	BainCapital VENTURES	LIFEFORCE CAPITAL			SAMSUNG
	CITY LIGHT	LU+			
	F-PRIME				
	bpi france	RP REVELATION PARTNERS			
	L2 VENTURES	VILLAGE GLOBAL			

Other notable healthtech venture investors this year included Venrock, NEA, Bessemer, .406 Ventures, Maverick, 1315 Capital, and Flare Capital.

*Most Active New Investors calculated as new (first-time) investments into US and Europe companies from 2019–2020. Financing data are compiled through 12/23/20. Dates of financing rounds subject to change based on add-on investments. Corporate parent and corporate venture investment are combined under Corporate Investor. Source: PitchBook, SVB proprietary data and [SVB HealthTech Report](#).



Series A Remains Stable, Led by Dx Analytics and R&D Tools

While the dx/tools sector raised record funding overall, Series A was flat.

ConcertAI, a commercial-stage dx analytics spin-out, raised the biggest dx/tools Series A deal this year (\$150M). This helped propel dx analytics dollars ahead of 2019. The next two largest dx analytics deals were GoodCell (\$18M for applying AI/ML to track health risks from blood samples) and Koneksa (\$16M for analyzing remotely-collected clinical data).

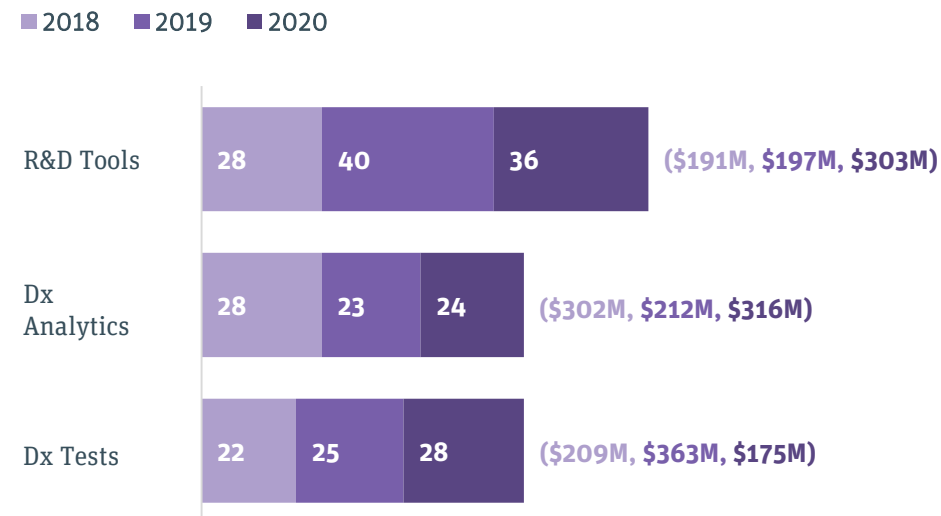
R&D Tools Series A deals were down, but dollars were up. The top three R&D tools companies were Tessera (\$50M for AI/wet lab gene-writing platform), Cyagen (\$41M for genetically-altered mouse/rat models) and Resolve Biosciences (\$24M for next-gen single-cell analysis).

Dx Tests funding was up overall in 2020, but Series A dollars were down. The top three Series A dx tests companies were C2N Diagnostics (\$20M for blood-based Alzheimer's test), Naveris (\$16M for blood-based early cancer detection) and Lumos Diagnostics (\$15M for point-of-care respiratory infection and COVID-19 tests).

Series A Dx/Tools Deals US and Europe

		2018	2019	2020
Number of Investments	US / Europe	62 / 16	61 / 27	61 / 27
	Total	78	88	88
Total Funding (\$M)	US / Europe	\$614 / \$89	\$650 / \$122	\$662 / \$153
	Total	\$703	\$772	\$795
Corporate Investments	US / Europe	19% / 13%	26% / 19%	23% / 22%

Series A Deals and (Dollars) by Top Indications



Top 2020 Series A Deals



*These companies overlap with healthtech and are included in both sets of analyses. 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. Financing data are compiled through 12/23/20. Dates of financing rounds are subject to change based on add-on investments. Source: PitchBook and SVB proprietary data.

Dx/Tools Help With COVID-19; Investment Rises Sharply

Dx/Tools innovation came to the forefront during the COVID-19 pandemic. Investment dollars surged across all subsectors, up 78%, and R&D tools doubled to \$4.1B, accounting for 43% of total dollars raised in this sector.

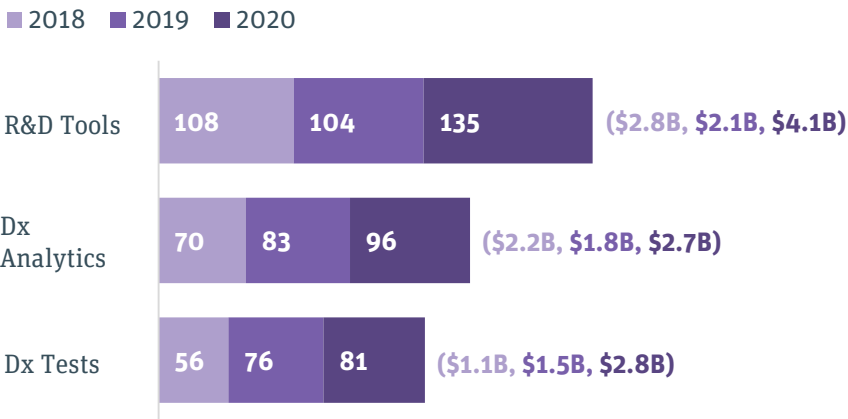
In 2020, R&D tools closed 12 \$100M+ deals, including two \$300M+ financings (Zymergen and XtalPi). The majority of these large deals were focused on AI/ML drug discovery platforms.

Dx analytics activity (i.e., actionable analytics to help clinicians treat patients) remained consistent in 2020. The subsector’s positive sentiment was buoyed by three mezz financings that then went public: Seer, Progenity and Biodesix.

Dx Tests was led by three early cancer detection deals (GRAIL, Freenome and Thrive), with GRAIL (\$8B) and Thrive (\$2.2B) both acquired later in 2020. Additionally, we saw an uptick in financings for anti-infective and platform plays that pursued COVID-19 tests.

Among the highest-valued companies in the sector, we saw the biggest 2020 step-ups** for Omniome (3x), Visby and Zymergen (1.8x) and Sema4 (1.7x).

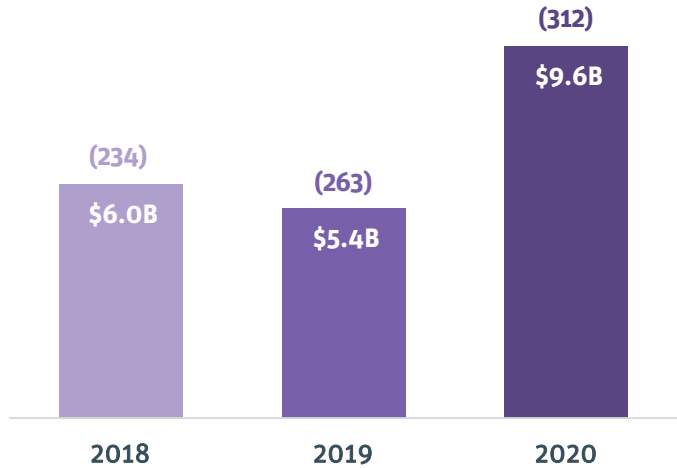
Dx/Tools Deals and (Dollars) by All Indications US and Europe



Top 2020 Deals



Total Dollars and (Deals) US and Europe



2020 Highest Valued Private Companies**

"TEMPUS	Dx Analytics	\$8,100M post
GINKGO BIOWORKS	R&D Tools	\$4,860M post
GRAIL	Dx Tests	\$3,3840M post
NANOPORE	R&D Tools	\$2,260M post
zymergen	R&D Tools	\$2,050M post
freenome	Dx Tests	\$1,120M post
sema4	Dx Analytics	\$1,100M post
visby medica	Dx Tests	\$886M post

Private M&A Company has since gone public

*These companies overlap with healthtech and are included in both sets of analyses. **Only includes private post-money values from publicly disclosed 2020 financings in PitchBook. Financing data include private financings by venture-backed companies in the US and Europe. Financing data are compiled through 12/23/20. Dates of financing rounds are subject to change based on add-on investments. Source: PitchBook and SVB proprietary data.



Investment Led by Crossovers; NorCal Leads Dx/Tools Activity

Deal activity by the active later-stage/crossover investors doubled what we reported last year, when the most active later-stage investors closed five and three deals, respectively. Foresite Capital and ImpactAssets were added as top investors.

Notable new venture capital investors on the list include 8VC, Revelation Partners, Section 32, Investiere, Oxford Sciences and iSelect Fund (similar in format to Alumni Ventures Group).









































In 2019–2020, roughly 9% of dx/tools deals had a China-headquartered investor in their syndicate group, and these deals comprised 22% of total dx/tools funding. The top China-headquartered investors were Horizons Ventures and Tencent Holdings.

By geography, European companies received 24% of the dx/tools deal flow in 2020. The UK had the most activity (all deals: 31/\$1B; Series A: 5/\$33M), followed by Germany and France.

In the US, Northern California dominated investment (all deals: 75/\$3.4B; Series A: 15/\$137M), followed by Massachusetts (39/\$1.8B; 13/\$289M), Southern California (28/\$714M; 8/\$51M) and New York (18/\$362M; 6/\$52M).

Most Active New Dx/Tools Investors*

Number of Deals (US and Europe, 2019–2020)

Venture Capital Investor		Corporate Investor		Later-Stage/Crossover Investor	
11		9	 Agilent	10	 PERCEPTIVE ADVISORS
8	 	7	 ALEXANDRIA	9	 CASDIN CAPITAL
5	      		    	8	 FORESITE CAPITAL
				5	 IMPACTASSETS INVEST WITH MEANING
4	             	4		4	    

*Most Active New Investors calculated as new (first-time) investments into US and European companies from 2019–2020. Financing data are compiled through 12/23/20. Dates of financing rounds subject to change based on add-on investments. Corporate parent and corporate venture investment are combined under Corporate Investor. Alexandria investments typically average \$2M per deal, AREE, Inc. Earnings 12/31/19. Source: PitchBook and SVB proprietary data.



Series A Deals Drop Sharply as Investors Focus on Later-Stage

US Series A deals and dollars continued a two-year decline, as most investment focused on later-stage clinical and commercialized investments. European dollars were up versus 2019, and five of the top 15 Series A deals were European companies.

Cardiovascular Series A deal activity remained down but dollars were up as we saw three \$15M+ deals from InnovHeart and CardioMech (\$23M and \$19M for mitral valve replacement) and Reprieve Cardiovascular (\$15M for ADHF treatment).

Imaging deals and dollars also dropped in 2020. The top Series A deals were G-ray (\$31M for enhanced X-ray imaging technology), CathVision (\$14M for interventional electrophysiology) and Vergent (\$12M for tumor visualization technology).

Neurology deals declined but investment was up, led by three notable \$30M+ financings by CereVasc (\$44M for endovascular shunt device) and ShiraTronics and Presidio Medical (\$36M and \$30M for neuromodulation technology).

NIM funding was slightly down, led by DawnLight (\$38M for inpatient and outpatient monitoring) and CloudCath (\$12M for remote monitoring of catheter-based treatments).

Series A Device Deals US and Europe

		2018	2019	2020
Number of Investments	US / Europe	66 / 20	57 / 24	48 / 24
	Total	86	88	66
Total Funding (\$M)	US / Europe	\$644 / \$269	\$599 / \$133	\$436 / \$178
	Total	\$913	\$732	\$614
Corporate Investments	US / Europe	9% / 0%	16% / 4%	17% / 8%

Series A Deals and (Dollars) by Top Indications

■ 2018 ■ 2019 ■ 2020

Imaging	10	13	6	(\$75M, \$153M, \$66M)
Surgical	9	10	10	(\$150M, \$162M, \$37M)
Neurology	10	9	6	(\$74M, \$55M, \$133M)
Cardiovascular	8	7	6	(\$122M, \$42M, \$83M)
Non-Invasive Monitoring	4	9	6	(\$15M, \$71M, \$67M)
Orthopedic	6	6	4	(\$39M, \$56M, \$45M)

Top 2020 Series A Deals



*These companies overlap with healthtech and are included in both sets of analyses. 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. Financing data are compiled through 12/23/20. Dates of financing rounds are subject to change based on add-on investments. Source: PitchBook and SVB proprietary data.

Device Funding Up; Increases in NIM, Imaging and Neurology

Device investment was up in 2020. Imaging and cardiovascular saw increased investment, and neurology and NIM almost doubled 2019 dollars.

Three deals raised late-stage mezz rounds and then went public in 2020: Outset Medical (\$125M Series E), Pulmonx (\$83M Series G) and Eargo (\$82M Series E).

The two largest device deals of 2020 (Element Science and Preventice Solutions) both were wearable NIM solutions for cardiovascular outpatients. In fact, the top four NIM financings all dealt with cardiovascular measurements (the other two were Eko and AliveCor).

In neurology, there were seven \$30M+ deals. The top three deals (Relievant, NeuroPace and SetPoint Medical) have all raised significantly more than \$100M+ in total venture investment.

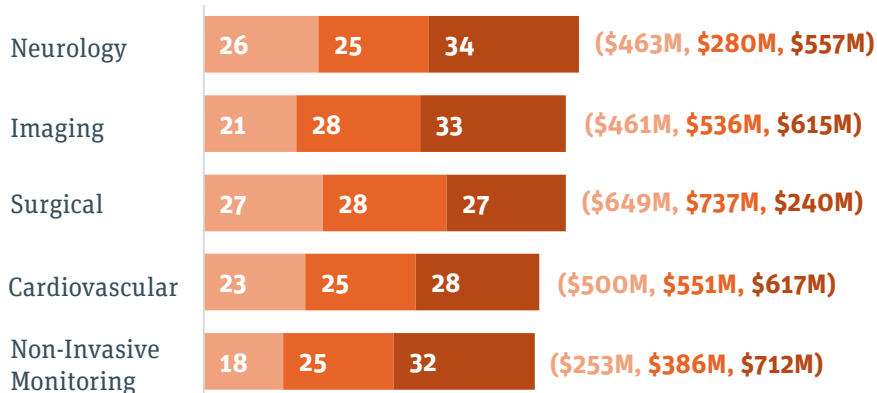
The top imaging deals focused on improving imaging workflow (Avail and Exo) and quality (Ionetix, Lumitron and G-ray).

Among the highest-valued companies in the sector, we saw the biggest 2020 step-ups** for Preventice (1.9x) and Pulmonx and Sight Sciences (1.3x).

Device Deals and (Dollars) by Top Indications

US and Europe

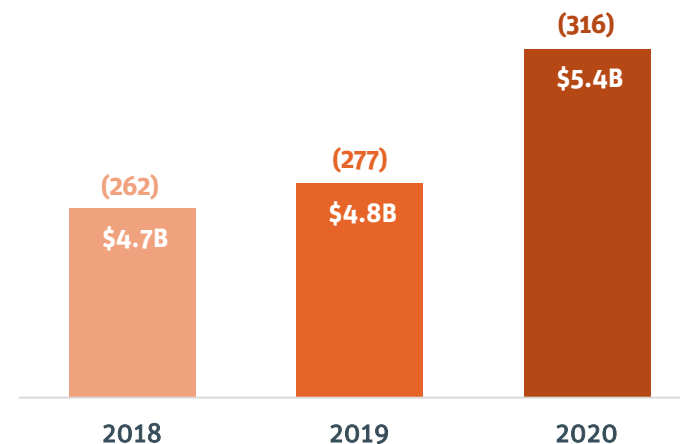
2018 2019 2020



Top 2020 Deals



Total Dollars and (Deals) US and Europe



2020 Highest Valued Private Companies**

Outset Better begins now.	Renal	\$725M post
Preventice SOLUTIONS	Non-Invasive Monitoring	\$623M post
PROCEPT BIOBOTANICS	Uro/Gyn	\$527M post
reflexion	Oncology	\$475M post
FRACTYL	Metabolic	\$380M post
pulmonX	Respiratory	\$316M post
SIGHT SCIENCES	Ophthalmology	\$300M post
abilitech MEDICAL	Orthopedic	\$278M post

Company has since gone public



MedTech Funds Grow Deal Pace; NorCal Leads Investment






























New venture investors on the 2019–2020 list include USVP, Tech Coast Angels and HBM, joining medtech-focused funds Shangbay Capital, AMED, Vensana, Sonder and Treo Ventures. On the corporate side, Mayo Clinic, Rex Health Ventures, Mount Sinai and LifeSci were added.

Over the last two years, only 6% of device deals had a China-headquartered investor in their syndicate group; these deals captured 13% of device funding. China-headquartered investors tend to participate in later-stage (≥ Series B) device deals (88% of deals). Top China-headquartered investors were GT Healthcare and Ally Bridge Group, as well as Qiming USA, a US-headquartered fund with a China affiliate.

By geography, European deals accounted for only 16% of the deal flow but were responsible for 33% of all Series A funding. Switzerland led European deals, focusing on Series A (all deals: 10, \$82M; Series A: 7/\$63M), followed by France (9/\$103; 4/\$15M) and the UK (9/\$50M; 1/\$3M). Northern California led US deals (69/\$1.9B; 10/\$120M), followed by Southern California (31/\$510M; 2/\$7), Massachusetts (29/\$415M; 8/\$86M) and Minnesota (19/\$411M; 2/\$48M).

Most Active New Device Investors*

Number of Deals (US and Europe, 2019–2020)

Venture Capital Investor		Corporate Investor		Later-Stage/Crossover Investor	
7	 	4	 MAYO CLINIC	6	DEERFIELD
6	AMED Ventures 				 Ally Bridge Group
5	USVP/  				
4	        	3	   	3	 ARROWMARK PARTNERS  ATLANTIC BRIDGE  CORMORANT ASSET MANAGEMENT  D1 CAPITAL PARTNERS  INVUS  PERCEPTIVE ADVISORS  RTW Investments  SOLEUS CAPITAL

*Most Active New Investors calculated as new (first-time) investments into US and European companies from 2019–2020. Financing data are compiled through 12/23/20. Dates of financing rounds subject to change based on add-on investments. Corporate parent and corporate venture investment are combined under Corporate Investor.
Source: PitchBook and SVB proprietary data.

Healthcare Investments China Spotlight

China HC Funding Doubles to \$11B; Biopharma Leads

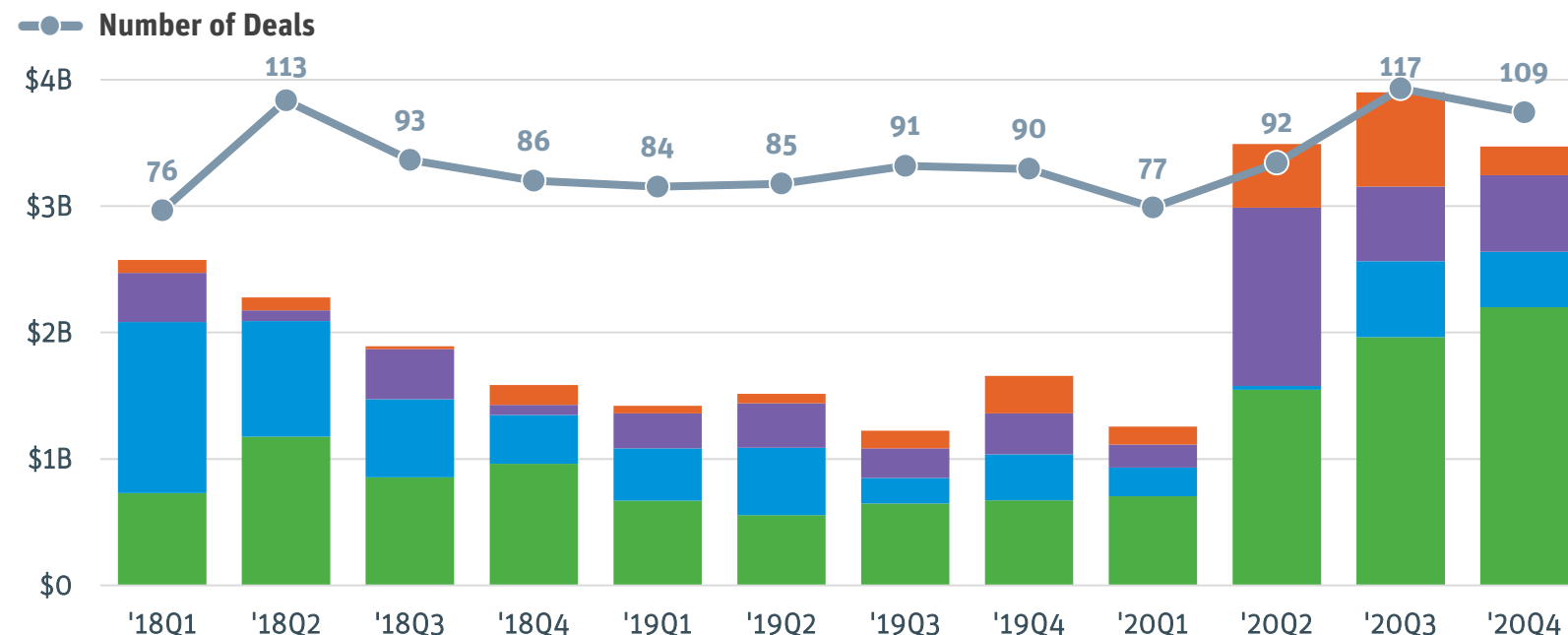
With China's government-led initiatives progressively supporting in-house innovation, China's healthcare (HC) ecosystem continues to thrive. In 2020, China closed 395 healthcare deals for a record \$12.1B. In comparison, all of Europe closed 377 deals for a total of \$8.2B.

At the city level, Shanghai and Beijing captured nearly half of the country's healthcare deals (28% and 18%, respectively) and also reined in the most funding (\$4.2B and \$1.5B, respectively).

While biopharma, dx/tools and device investment in China doubled from 2019–2020, healthtech was the sole sector that saw a decline in both venture investment (-15%) and the number of financings (-34%). Investors may be wary of the high company valuations and lack of notable healthtech exits over the past few years.

On the investor front, China's venture-backed startups predominantly rely on domestic investment, with more than 75% of 2020's investors being headquartered in China. The most active investors in China-headquartered companies were Hillhouse Capital, Qiming Venture Partners, Sequoia Capital and Lilly Asia Ventures.

VC Dollars and Deals by Healthcare Sectors China



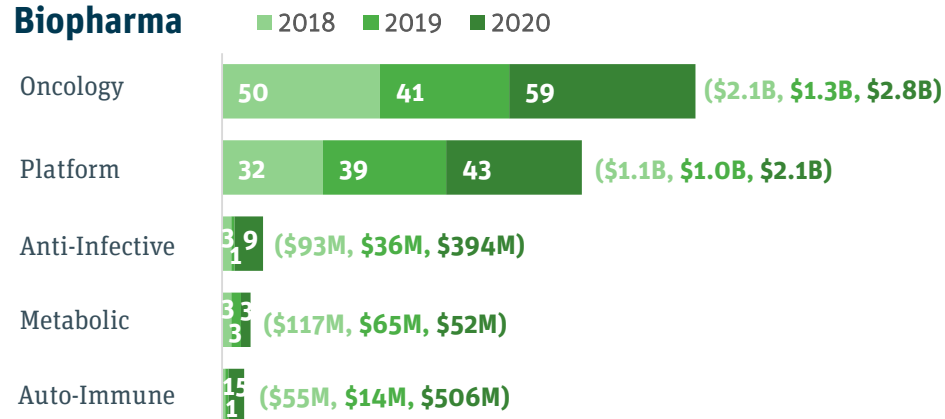
Sectors (\$M)	2018	2019	2020*	Total	2020 Top Investors by Sector
Biopharma	\$3,723	\$2,543	\$6,417	\$12,683	Hillhouse Capital, 凯泰资本 KAITAI CAPITAL, Lilly Asia Ventures, QIMING, SEQUOIA CAPITAL 红杉资本 CHINA
HealthTech	\$3,240	\$1,515	\$1,294	\$6,049	Baidu Ventures 百度风投, 钟鼎资本 ZHONGDING CAPITAL, IDG Capital, KUNLUN, matrix PARTNERS CHINA 经纬中国
Dx/Tools	\$952	\$1,186	\$2,790	\$4,928	国辰德资本 GUOCHEN DE CAPITAL, Hillhouse Capital, IDG Capital, LUCION 鲁信创投, SHERPA 经纬中国
Device	\$379	\$570	\$1,618	\$2,567	3HHEALTH 三生制药, 杏泽资本 Xingze Capital, Hillhouse Capital, QIMING, 元生创投 YUANSHE VENTURE CAPITAL
Total	\$8,294	\$5,814	\$12,119	\$26,228	HLC 弘霖资本, Hillhouse Capital, Lilly Asia Ventures, OrbiMed, QIMING, SEQUOIA CAPITAL 红杉资本 CHINA

*Financing data are compiled through 12/23/20. Financing data include private financings by venture-backed companies in Mainland China and Hong Kong. Dates of financing rounds are subject to change based on add-on investments. HealthTech deals that overlap with other sectors were removed from healthtech totals. For more information on healthcare in China, please see the [China Healthcare Report](#). Source: PitchBook and SVB proprietary data.

China VC Deals and (Dollars) by Healthcare Sectors



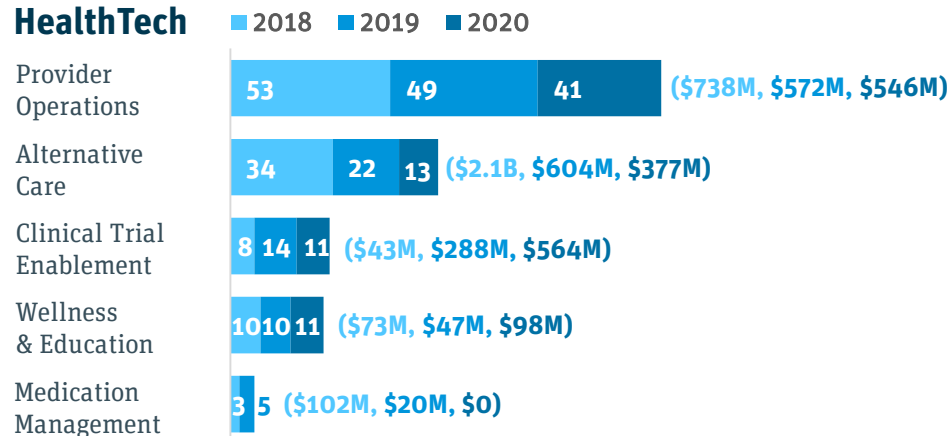
Biopharma



Top Deals 2020



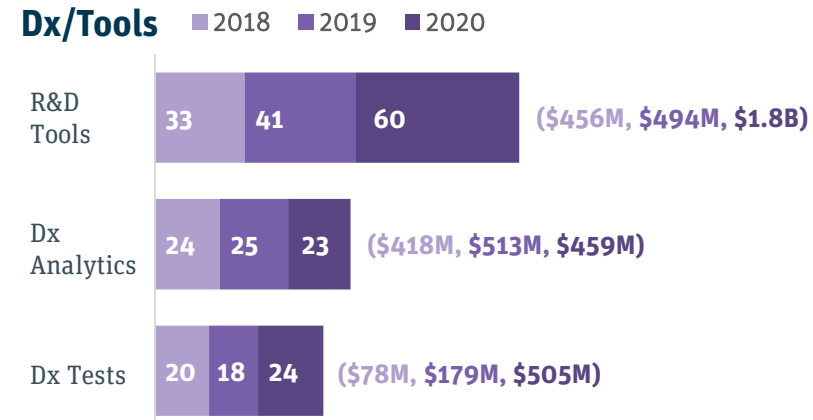
HealthTech



Top Deals 2020



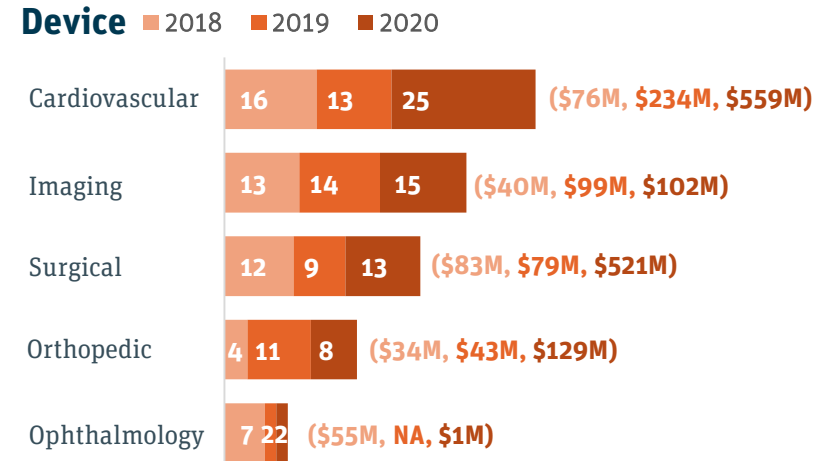
Dx/Tools



Top Deals 2020



Device



Top Deals 2020



*Genecast has been counted in both device and healthtech sector analyses. Financing data are compiled through 12/23/20. Financing data include private financings by venture-backed companies in Mainland China and Hong Kong. Dates of financing rounds are subject to change based on add-on investments. For more information on healthcare in China, please see the [China Healthcare Report](#). Source: PitchBook and SVB proprietary data.



Healthcare Exits Global

SVB Global Healthcare Index Outperforms Broader Markets

We created the SVB Global Healthcare Index to track the post-IPO performance of private, venture-backed healthcare companies since 2018.

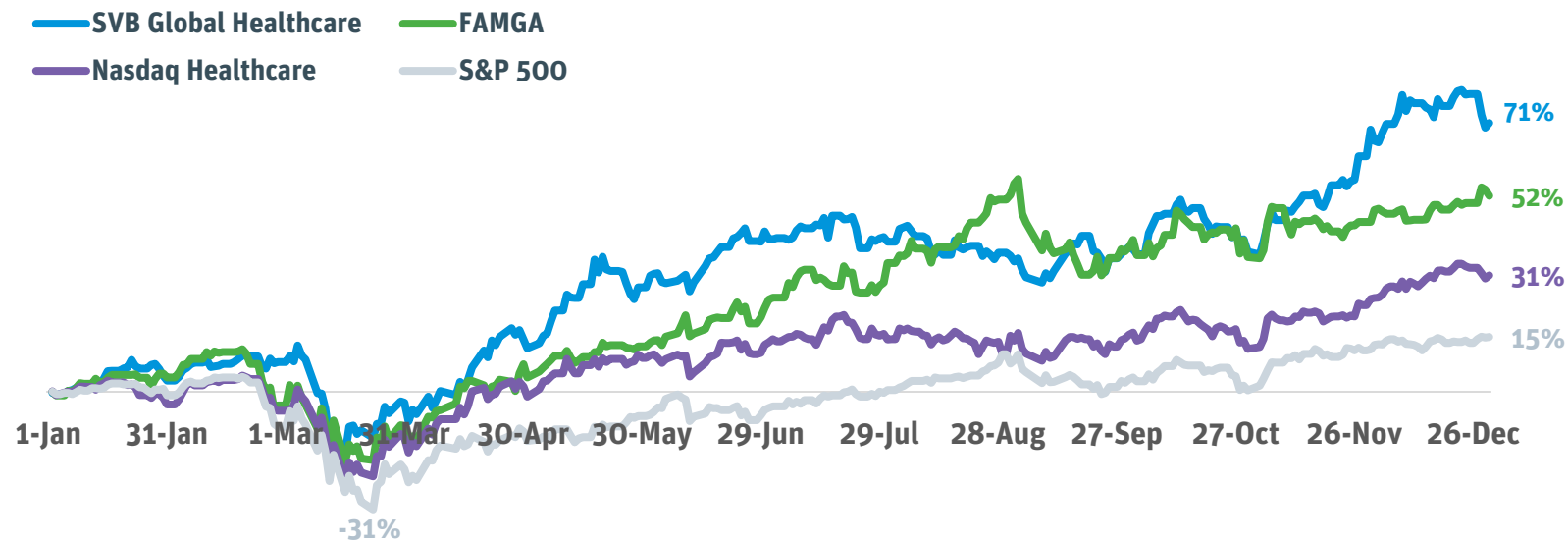
The SVB global healthcare index (+71%) has recovered faster and substantially outperformed the broader mid / large-cap Nasdaq healthcare index (+31%). It is even ahead of FAMGA⁺⁺ (+52%), which tracks the large cap tech growth companies – Facebook, Apple, Microsoft, Google and Amazon.

This strong performance is primarily driven by dx/tools companies, whose average performance (+183%) doubled that of biopharma (+85%). Interestingly, despite the class of 2018 global healthcare IPOs performing poorly in its first year, this class substantially outperformed in 2020.

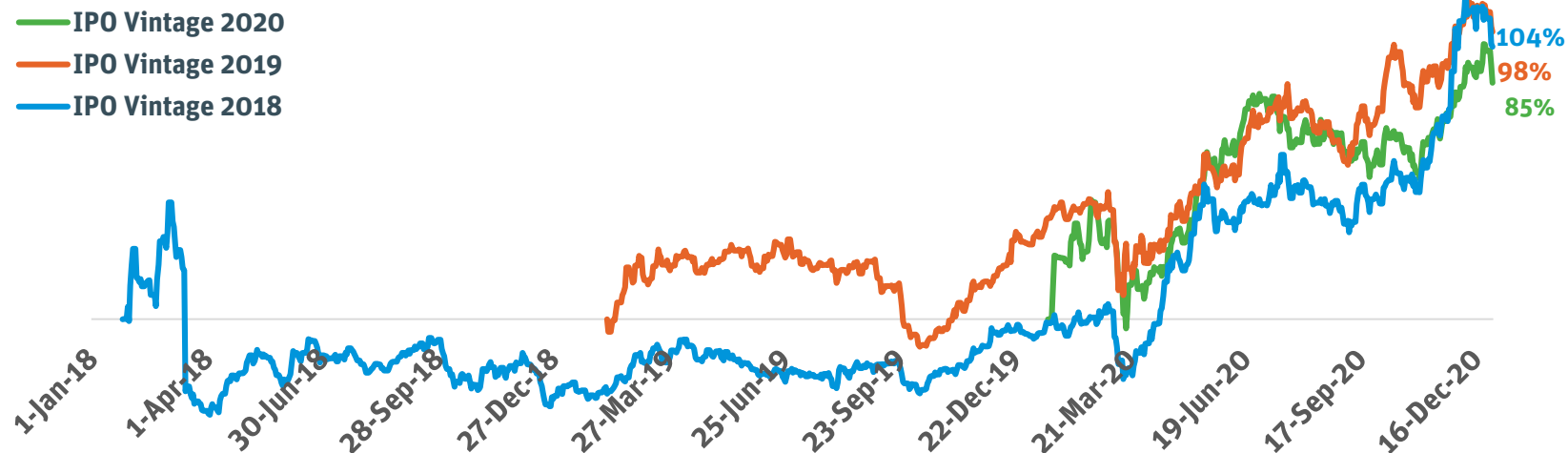
Notable top performers include Kodiak Sciences (biopharma, +1,369%), Inspire Medical Systems (device, +1,076%) and Twist Biosciences (dx/tools, +909%). The market cap of each of these companies account for 2–3% of the total index.

Moderna, CanSino Biologics and BioNTech shares vastly outperformed all biopharma this year, with a collective performance of +508%, likely due to their development of COVID-19 vaccines.

A) SVB Global Healthcare Post-IPO Performance Comparison



B) SVB Global Healthcare Post-IPO Performance



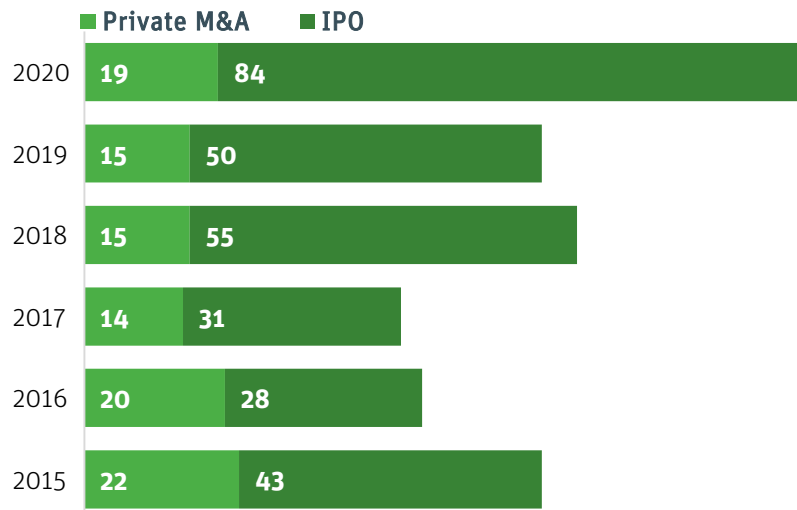
IPO Activity Sets a Record; Post-IPO Performance Excels

The biopharma exit environment reached new heights in 2020. The number of public offerings in 2020 beat 2014's previous record (66). Combined IPO market caps and private M&A nearly doubled 2018's record exit values.

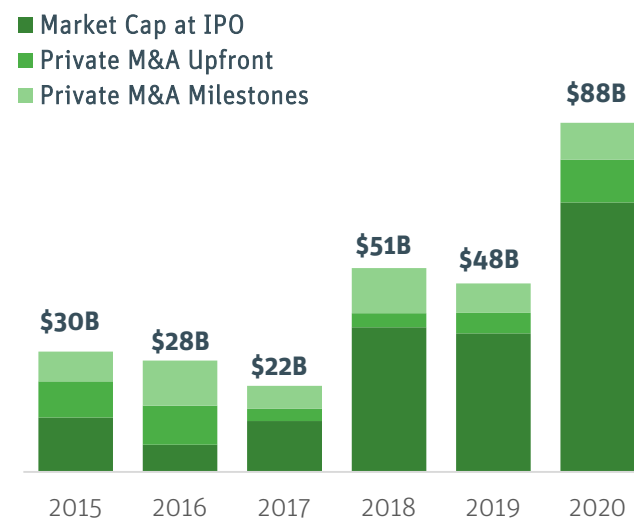
IPO valuations and dollars hit all-time records. As importantly, in Q4 we saw strong IPO activity and performance, especially by early-stage class of 2020 IPOs (as displayed in section C). We think post-IPO run-up, combined with robust Top 15 Crossover mezz activity (LIPO deals) that restocked the IPO pipeline, will generate positive momentum for public markets in 2021.

Large cap pharma have largely refrained from trying to compete against high-flying IPOs with private acquisitions over the past few years. However, we may be witnessing a turning point in early-stage exit strategy. Positive post-IPO performance continues to drive bigger market caps for newly-public early-stage companies, creating very expensive, high-premium buy-outs. In response, acquirers have been forced to move earlier, tendering large upfront M&A values to supplant potential IPOs. In Q4, three private M&As for \$1B+ in upfront payments were announced.

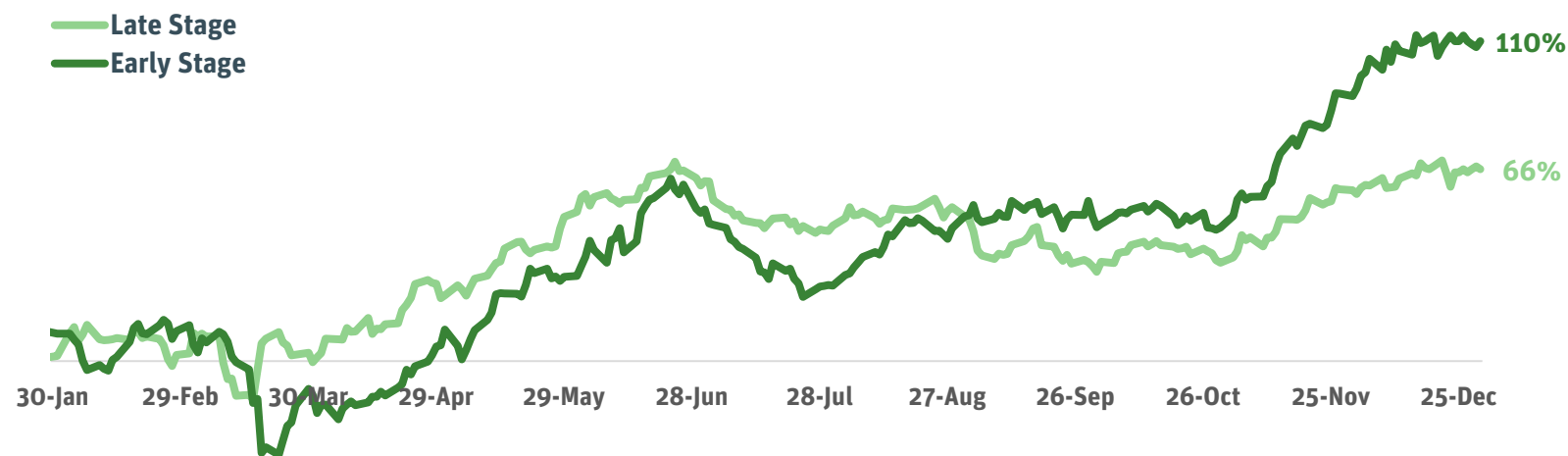
A) Biopharma Private M&A Deals and IPOs by Year



B) Biopharma Exit Values by Year



C) 2020 Post-IPO Biopharma Performance*



*Individual IPO stock performance equally weighted. 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 (B). Public market performance metrics calculated as of 12/31/20. Early-stage defined as Pre-Clinical and Phase I at time of IPO. Late-stage biopharma defined as Phase II, Phase III, and Commercial at time of IPO. Source: PitchBook, Capital IQ and SVB proprietary data.

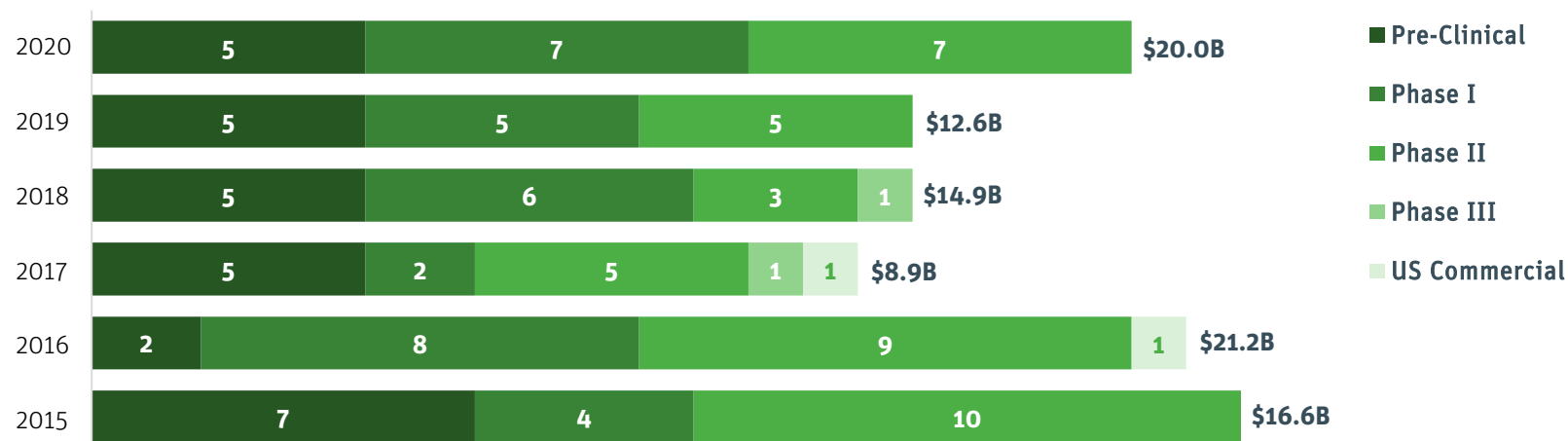
Mega-Sized Q4 M&A Showcase Acquirer Pre-IPO Appetite

While IPOs dominated overall exits, we continued to see early-stage (pre-clinical and phase I) private companies raised smaller venture rounds and then engage in M&A activity, as large cap pharma use venture-backed companies to repopulate their pipelines. The median time to exit for private M&A was just four years from the close of Series A. In 2020, these deals yielded quick, lucrative returns back to investors (median 6x upfront multiple on venture dollars invested).

Oncology and neurology led acquisition with four deals each. We saw anti-infective deals ramp up in Q4, with a \$425M deal focused on COVID-19 (OncoImmune by Merck) and a \$1.4B+ upfront deal for a late-stage hepatitis drug (MYR by Gilead). Gilead led acquirers with three VC-backed private acquisitions in 2020, followed by Merck, Takeda, Novartis and Bayer with two each.

We also noted large cap pharma paying larger upfront dollars in private M&A deals to compete with the aggressive IPO market. There were two \$2B+ upfront private M&A in Q4 2020 that fit this profile: AskBio (Bayer) and VelosBio (Merck). Both had raised \$200M+ and were likely IPO candidates.

A) Biopharma Private M&A Deals by Stage



B) Biopharma M&A Deal Median Values by Year

IPO Year	Upfront	Total Deal	Years to Exit
2020	\$300M	\$770M	4.0
2019	\$250M	\$600M	2.7
2018	\$140M	\$480M	3.1
2017	\$171M	\$461M	3.5
2016	\$200M	\$600M	5.9
2015	\$200M	\$570M	4.2

C) 2020 Notable M&A Deals

	Anti-Infective
	Auto-Immune
	Cardiovascular
	Neurology
	Oncology
	Ophthalmology
	Platform
	Uro/Gyn



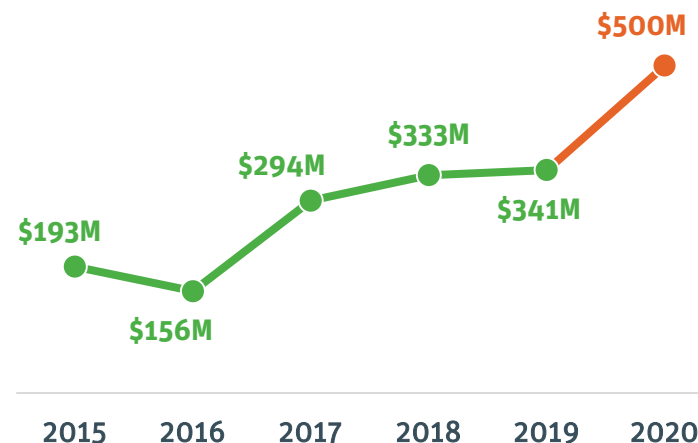
IPO Values and Proceeds Rise; Post-IPO Performance Excels

IPO pre-money valuations (up 47% vs. 2019) and proceeds (up 135%) set new highs in 2020. Most of these IPOs followed a familiar playbook: Top venture investors funded the Series A and savvy crossovers provided an ample step-up mezzanine round. Then there was a smaller step-up to the pre-money IPO value and nice pop at IPO.

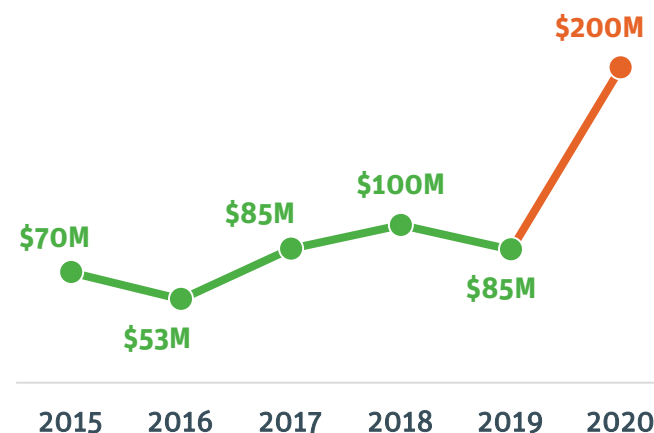
Top 15 Crossover backed deals accounted for 73% of 2020 IPOs (61 of 84) and out-performed all others in step-up to pre-money IPO (1.4x vs. 1.2x) and post-IPO performance (+99% vs. +60%).

From 2018 to 2020, biopharma post-IPO performance (including IPOs that were acquired) was incredible. Oncology (68 IPOs), led by BioNTech, Turning Point, Synthorx and Forty Seven had the best performance. Platform (43 IPOs), led by Moderna, Principia, Innovent and Beam and neurology (11 IPOs), led by Karuna and COMPASS were next, although neurology ended down from 2020 highs. Orphan/Rare (19 IPOs), led by Eidos and SpringWorks, showed the strongest Q4 uptick. Anti-infective (16 IPOs), led by CanSino and CureVac, had the lowest (but still very impressive) performance.

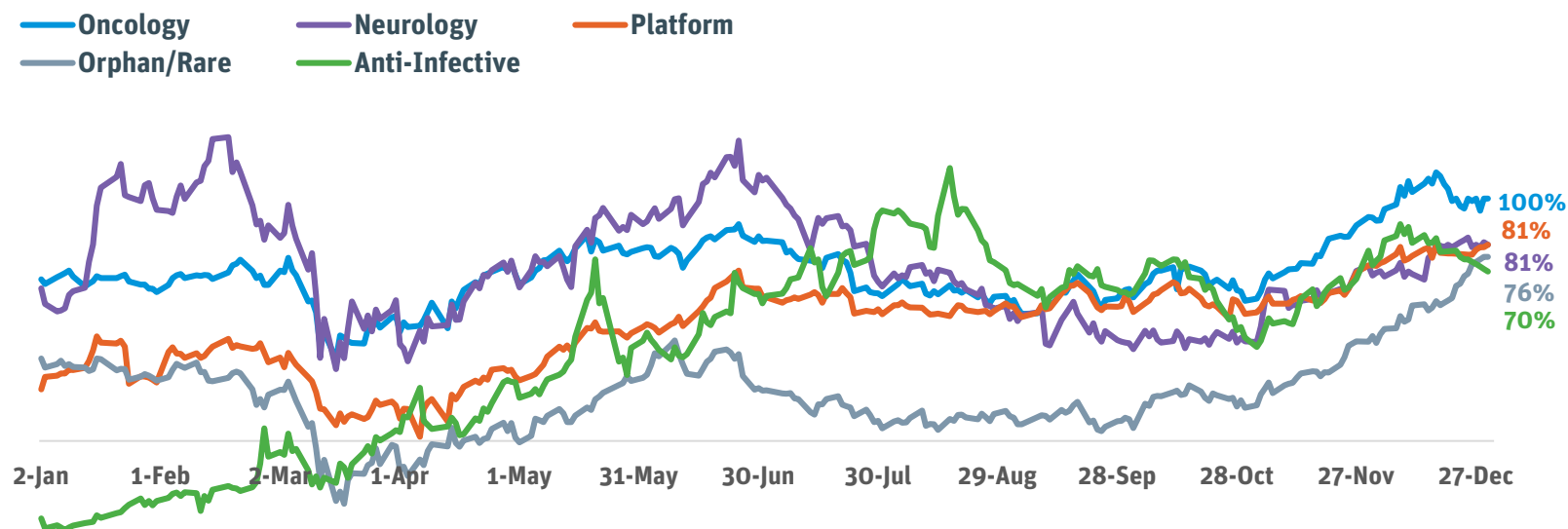
A) IPO Median Pre-Money Valuations



B) IPO Median Proceeds



C) 2018–2020 Post-IPO Performance by Top Indications*

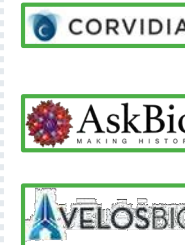
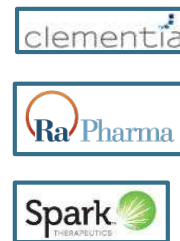


*Each biopharma indication is equally weighted and includes IPO vintages from 2018-2020. IPOs that were subsequently acquired were carried at the acquisition price per share going forward for this analysis. Source: PitchBook, Capital IQ, and SVB proprietary data.

\$1B+ M&A Deals by Year: 14 Private/9 Public

Public M&A

2020



\$1B+ Public Deals by IPO Vintage: 92 Companies

2020



HEALTHCARE INVESTMENTS AND EXITS | ANNUAL REPORT 2021

Alternative Care Leads 2020 Post-IPO Performance

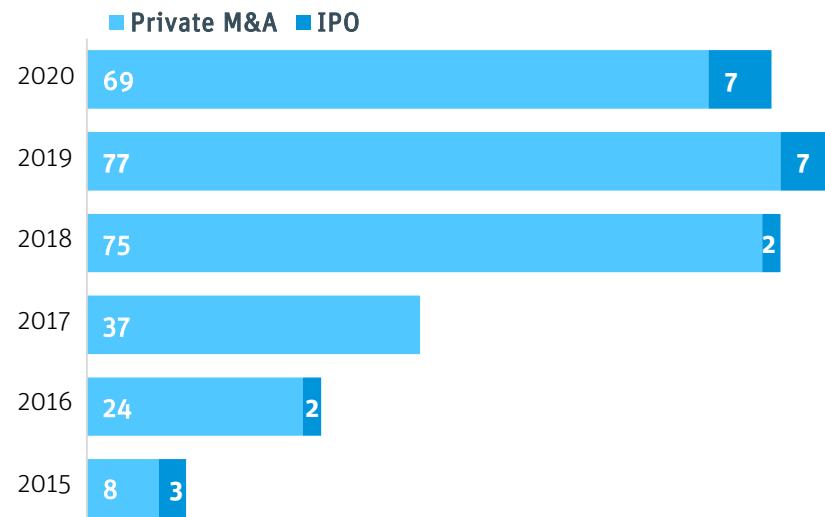
The IPO market cap for the five venture-backed public offerings in 2020 represented 83% of total exit value, despite 10x more M&A deals than IPOs. (Note: GoodRx* was formerly venture-backed but is now PE-backed).

While 2019 had four \$1B+ publicly disclosed private M&A deals, 2020 had none. This could indicate that companies lack the optionality of a large private M&A, as acquirers are unwilling to compete directly with public market prices.

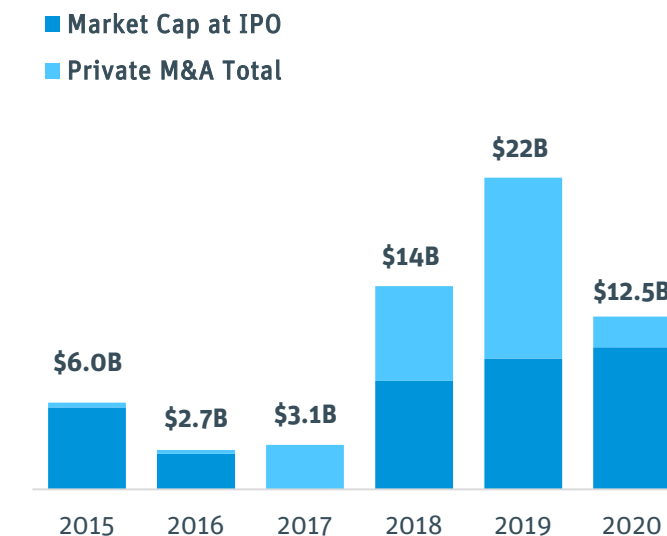
2020 was a banner year for post-IPO performance for the five venture-backed IPOs (average: +108%; median: +90%). In fact, all IPOs since 2015 have fared well, with a median performance of +71%.

Alternative care (AC) post-IPO performance (average: +228%; median: +92%) beat all other subsectors in 2020 (average: +41%; median: +26%). As AC becomes the new standard of care, companies will shift accordingly. For example, this year Teladoc (\$TDOC) acquired Livongo (\$LVGO) for \$18.5B in the first venture-backed public M&A to increase their market share within AC. Accolade (healthcare navigation) also expanded into AC through a partnership with Ginger.io (alternative care).






A) HealthTech Private M&A Deals and IPOs by Year



B) HealthTech Exit Values by Year



C) 2020 Post-IPO Performance

		^{**} SCHRODINGER	one medical					[*] GoodRx
SVB Subsector		SHSE: SDGR Clinical Trial Enablement	NAS: ONEM Alternative Hybrid Care	NAS: OSH Alternative Hybrid Care	SHG: 605186 Medication Management	NAS: ACCD Healthcare Navigation	NAS: AMWL Alternative Virtual Care	NAS: GDRX Medication Management
IPO Price (Date)		\$17.00 (2/06/20)	\$14.00 (1/30/20)	\$21.00 (8/06/2020)	\$2.17 (12/22/20)	\$22.00 (7/02/20)	\$18.00 (9/16/2020)	\$33.00 (9/23/2020)
Price 12/31/20		\$79.18	\$43.65	\$61.16	\$4.31	\$43.50	\$25.33	\$40.34
Price +/-		+366%	+212%	+191%	+99%	+98%	+41%	+22%
Market Cap 12/31/20		\$5.5B	\$5.8B	\$14.7B	\$586M	\$2.4B	\$5.9B	\$15.7B

*This company is PE-backed and only included in A and C. **This company overlaps with dx/tools and is included in both sets of analyses. 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. Market cap at IPO used to estimate value of public companies. Public market performance metrics calculated as of 12/31/20. Source: PitchBook, Capital IQ, SVB proprietary data and [SVB HealthTech Report](#).

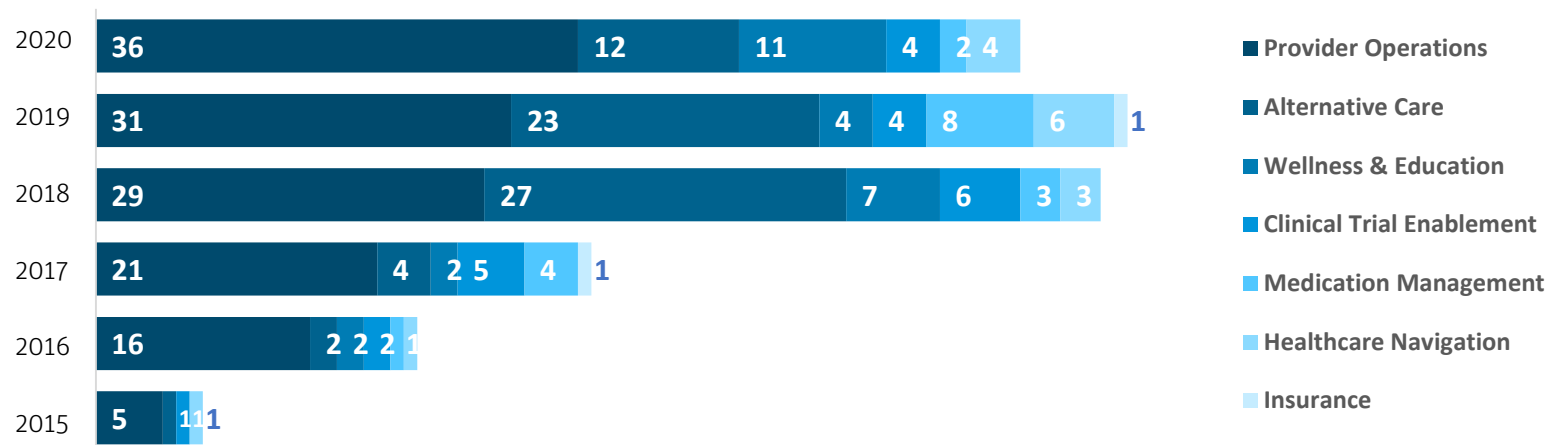
M&A Decline Linked to Public Market Interest; PO Leads

While 2020 saw 69 global private M&A deals, matching the rough pace of the previous two years, alternative care (AC) M&A activity dropped by more than 50%.

This decline could be attributed to the COVID-19 pandemic, as acquirers wanted to focus on handling changes to their own business. However, the global public markets are bullish on the industry (SVB HealthTech Index: +112%), with AC companies leading post-IPO performance (median +92%). This sentiment has presented top-tier companies with a new, more lucrative path to liquidity.

Even with strong public market sentiment, private M&A deals have continued. Provider operations (PO) represented 52% of all healthtech M&A deals this year. Of these exits, 90% were workflow optimization companies, such as NurseGrid (~\$21M) and ShiftWizard (undisclosed) both by Nashville-based HealthStream (NAS: HSTM) and Curisium (undisclosed) by venture-backed HealthVerity.

A) HealthTech Private M&A Deals by Subsectors



B) HealthTech M&A Deal Median Values by Year

Year	Total Deal	Years to Exit
2020	\$84M	6.2
2019	\$40M	5.8
2018	\$100M	4.9
2017	\$41M	3.6
2016	\$9.9M	4.2
2015	\$70M	4.3

C) 2020 Notable M&A Deals

AbleTo	Circle Medical A UCSF HEALTH AFFILIATE	Alternative Care
carezone		Medication Management
CareCloud	MEDAL Part of Ciox	Provider Operations
CENTAURI HEALTH SOLUTIONS	NarrativeDx	
HEALTHEDGE	NurseGrid	
lumere a GHX company	zesty	
care/of		Wellness & Education

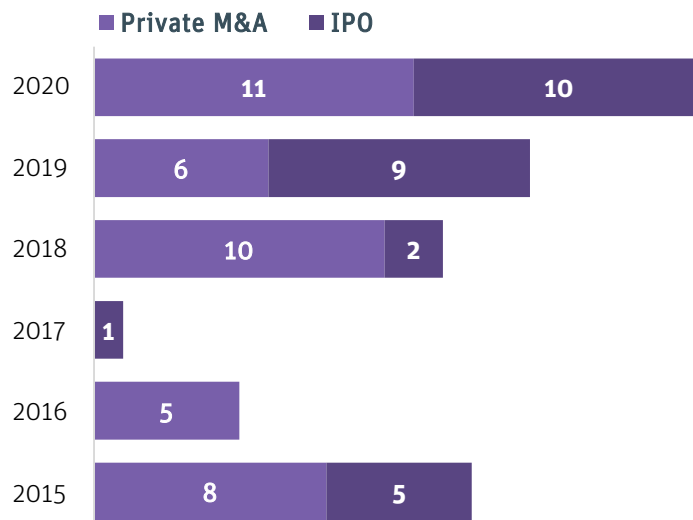
Private M&A, IPOs Drive Record Returns in Dx/Tools

Historically, we have seen few, if any, large private dx/tools acquisitions. As IPOs increased in both frequency and scale with multiple \$1B+ market cap IPOs over the past few years, private M&A dollars have remained low and often reserved for later-stage commercial companies. However, in 2020, we saw three multi-billion dollar private M&A (ArcherDX, GRAIL and Thrive Earlier Detection), two of which were pre-commercial. We believe these examples corroborate the thesis that a dual IPO/M&A exit track is available for private venture backed dx/tools companies.

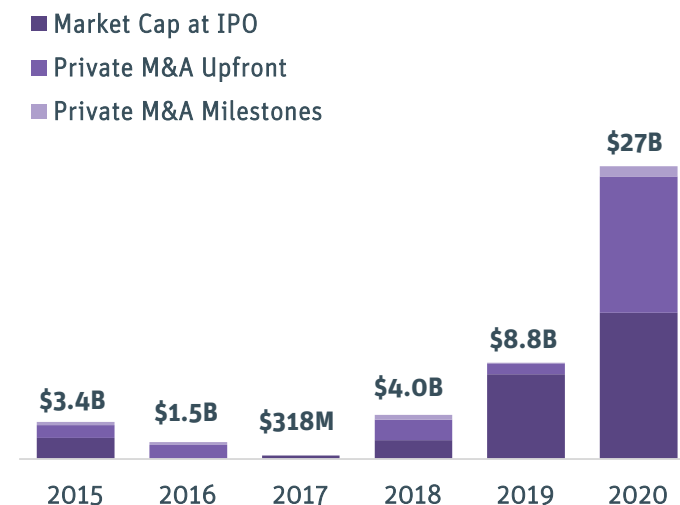
2020 produced a record nine \$1B+ market caps at IPO or private M&A deals, boosting exit values to a new high, almost 3x higher than any of the past five years.

Dx/Tools IPOs in 2020 skyrocketed past 2019 in median pre-money IPO (\$929M vs. \$222M), IPO dollars raised (\$178M vs. \$66M) and \$1B+ market cap companies at IPO (six vs. two). Average post-IPO performance has been exceptional for the IPO class of 2020 (+110%) and the IPO class of 2019 (+130%). Five of the 10 2020 IPOs are trading up 100%+ from their IPO price.

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



B) Dx/Tools Exit Values by Year



C) 2020 Post-IPO Performance

										
	NAS: SDGR	NAS: BLI	NAS: SEER	NAS: MASS	NAS: ABCL	SHSE: 688222	NAS: BNR	NAS: BDSX	NAS: GTH	NAS: PROG
SVB Subsector	R&D Tools	R&D Tools	Dx Analytics	R&D Tools	R&D Tools	R&D Tools	Dx Test	Dx Analytics	Dx Test	Dx Analytics
IPO Price (Date)	\$17.00 (2/6/20)	\$22.00 (7/17/20)	\$19.00 (12/4/20)	\$20.00 (12/11/20)	\$20.00 (12/18/20)	\$2.91 (4/16/20)	\$16.50 (6/12/20)	\$18.00 (10/28/20)	\$16.00 (6/19/20)	\$15.00 (6/19/20)
Price 12/31/20	\$67.99	\$85.38	\$60.94	\$56.95	\$40.24	\$5.51	\$25.52	\$14.41	\$13.54	\$3.50
Price +/-	+366%	+306%	+195%	+185%	+101%	+59%	+40%	+12%	-13%	-65%
Market Cap 12/31/20	\$5.5B	\$5.8B	\$3.7B	\$1.5B	\$10.8B	\$1.8B	\$2.4B	\$535M	\$1.3B	\$296M



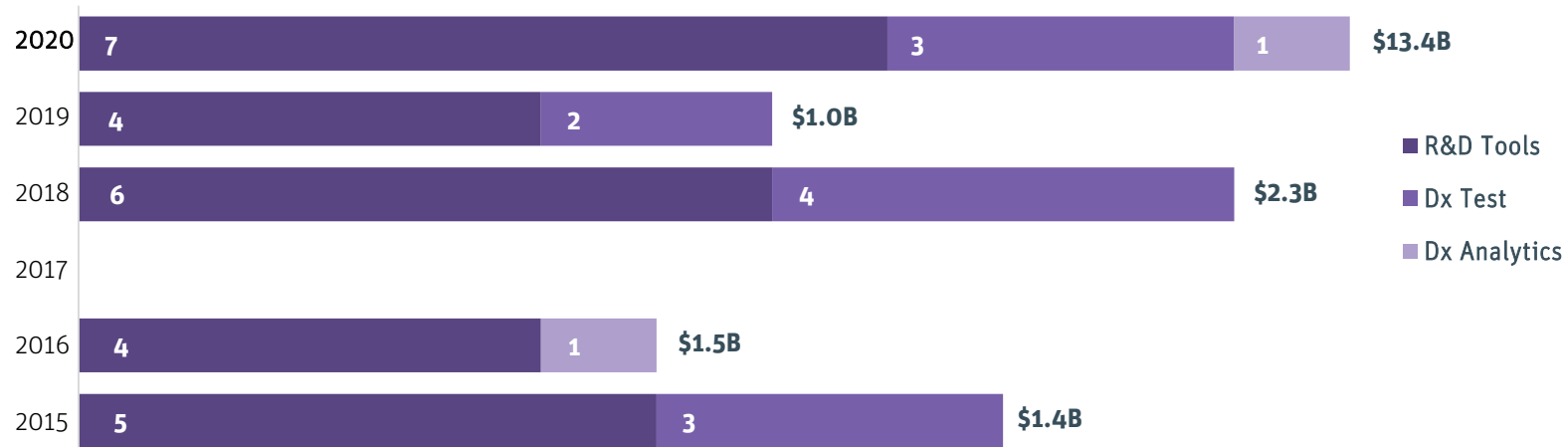
Large Private M&As Provide Dual-Track Options for Sector

We predicted that AI/ML-enabled companies in this space would finally break through with large acquisitions by tech companies. We experienced the breakthrough, but it was actually led by existing dx/tools players looking to expand or supplement their technologies. At \$13.4B, total M&A value in 2020 dwarfed any other year.

The largest purchases were made by Illumina (\$8B upfront/total for GRAIL), Invitae (\$890M upfront, \$1.4B total for ArcherDX) and Exact Sciences (\$1.7B upfront, \$2.2B total for Thrive Earlier Detection). ArcherDX filed to go public and Thrive had closed a large mezz round before their private acquisitions, which provides evidence that dual-track M&A/IPO optionality is available for private companies. All three deals exited in less than five years from the close of their Series A.

The GRAIL acquisition posted the largest private upfront (and total) deal value for any VC-backed biopharma, dx/tools or device company since we began tracking private deal values in 2005. This landmark deal outpaced the previous top deals, StemCentrx (\$5.8B in 2016) and Acerta (\$4B in 2015). Thrive Earlier Detection also landed on the list, placing eighth overall.

A) Dx/Tools Private M&A Deals by Indications



B) Dx/Tools M&A Deal Median Values by Year

IPO Year	Upfront	Total Deal	Years to Exit
2020	\$350M	\$350M	5.4
2019	\$68M	\$83M	5.3
2018	\$126M	\$161M	9.1
2017	—	—	—
2016	\$225M	\$325M	8.5
2015	\$164M	\$164M	3.6

C) 2020 Notable M&A Deals

Blueprint Genetics	Dx Analytics
base GRAIL Thrive. Earlier Detection	Dx Test
Andrew Alliance A WATERS COMPANY ARCHER BIA scienion	R&D Tools
Celsee A BIO-RAD COMPANY NeuMoDx a GRAIL company READCOOR Part of 10x Genomics	

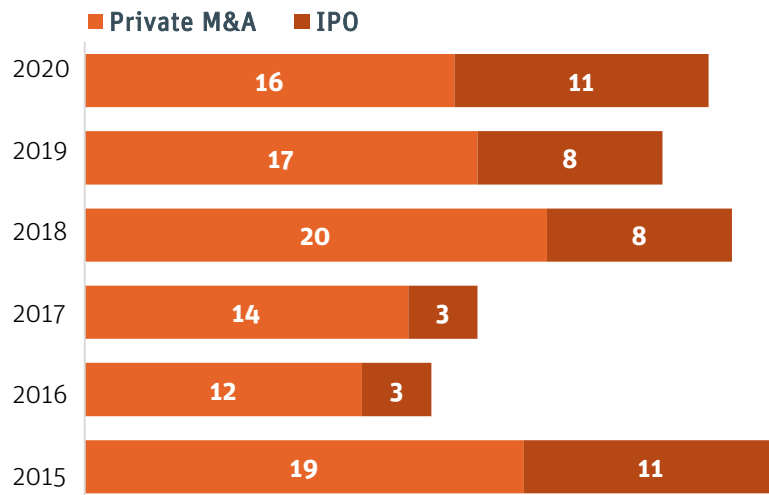
IPOs Drive Returns in Device; M&A Slows

During the COVID-19 pandemic, device companies were hit particularly hard by delays in clinical trials and commercialization, as both elective and emergency procedures were reduced. While 2020 M&A was down, IPO activity increased. Total exit values were dominated by IPO market caps.

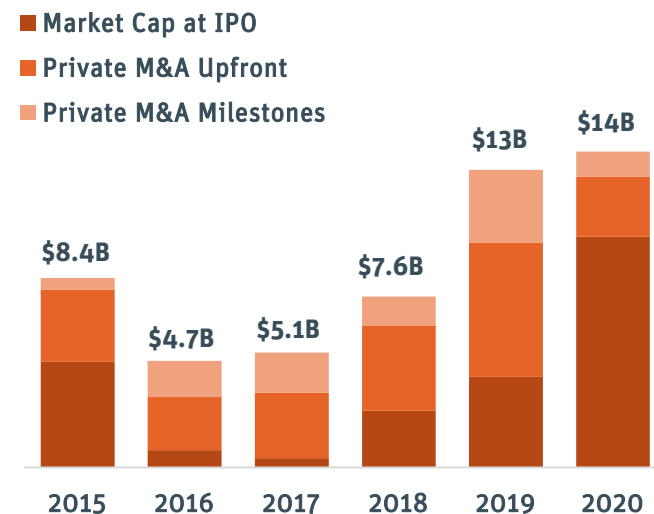
IPO median pre-money valuation (\$469M) and dollars raised (\$149M) both outpaced 2019's numbers by +58% and +59% respectively. Nine of 11 2020 IPOs were up at year-end, with amazing average and median post-IPO performance (+150%/+111%) leading all healthcare sectors in post-IPO performance this year. This is a trend, as the class of 2018 (+172%/+66%) and 2019 (+168%/+113%) have shown sustained after-market performance as well. Device acquirers may be pushed to strategically acquire new technologies earlier (likely pre-mezz round) as post-IPO market cap growth have made these companies quite expensive, while private M&A values have lagged.

Since 2018, Orbimed (seven deals) has been the most active VC investor in device deals that IPO'd. The top crossovers were Perceptive, Fidelity, Ally Bridge, Deerfield and Rock Springs (three each).













A) Device Private M&A Deals & IPOs by Year



B) Device Exit Values by Year



C) 2020 Post-IPO Performance

	 SHG: 688050	 NAS: NARI	 NAS: LUNG	 NAS: NNOX	 NAS: EAR	 NAS: OM	 SHSE: 688085	 SEHK: 9996	 NAS: AFIB	 NAS: AZYO	 NAS: LYRA
SVB Subsector	Ophth.	Vascular	Respiratory	Imaging	ENT	Renal	Orthopedic	Cardio	Imaging	Drug Delivery	Drug Delivery
IPO Price (Date)	\$5.03 (7/29/20)	\$9.00 (5/22/20)	\$19.00 (10/1/20)	\$18.00 (8/21/20)	\$18.00 (10/16/20)	\$27.00 (9/15/20)	\$2.97 (4/9/20)	\$1.98 (5/15/20)	\$18.00 (8/6/20)	\$17.00 (10/8/20)	\$16.00 (5/1/20)
Price 12/31/20	\$26.50	\$87.29	\$69.02	\$45.66	\$44.82	\$56.84	\$5.94	\$3.64	\$28.81	\$13.63	\$11.40
Price +/-	+416%	+359%	+263%	+154%	+149%	+111%	+100%	+84%	+60%	-20%	-29%
Market Cap 12/31/20	\$2.8B	\$4.3B	\$2.5B	\$2.1B	\$1.7B	\$2.4B	\$1.2B	\$2.3B	\$802M	\$139M	\$147M



Device Sees Quicker M&As; Deal Size Holds Steady

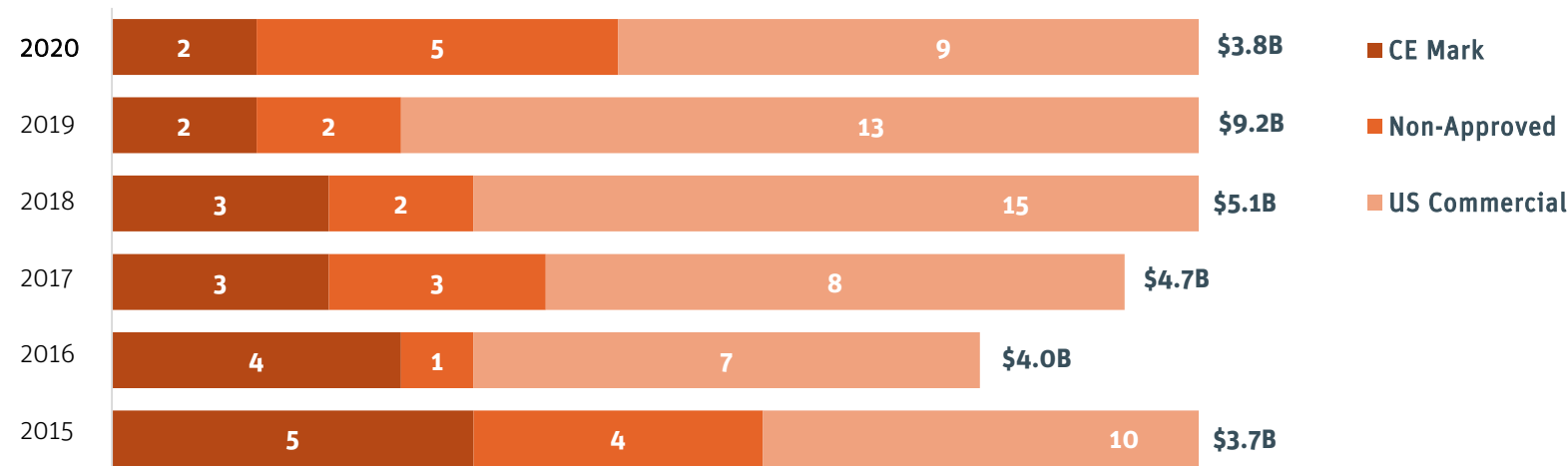
We continued to monitor M&A by regulatory pathway. 510(k) M&A typically are commercial, acquired for smaller values and take longer to exit. This year there were seven 510(k) deals, five of which were US commercial, with median deal values of \$80M upfront and \$200M total. This was a lower upfront value but more milestones versus 2015–2019 median 510(k) values (\$110M upfront, \$130M total). Median time to exit was 7.8 years.

PMA pathway deals are typically bought prior to US commercialization, at larger deal sizes and quicker than 510(k) deals. Five of seven PMA exits were pre-US commercial (three non-approved, two CE mark only), with median deal values of \$118M upfront and \$200M total. These fell below 2015–2019 PMA upfront value and had less milestone earn-outs (\$220M, \$325M).

In 2020, the median time to exit declined to just 4.8 years from the close of Series A. Four of the seven PMA deals exited quicker than 3.5 years.

Medtronic (four) and Stryker (three) continued to be active acquirers, leading VC-backed device M&A since 2019. Boston was the most active acquirer in 2018, but has not publicly announced a venture device deal since mid-2019.

A) Device Private M&A Deals by Indications



B) Device M&A Deal Median Values by Year

IPO Year	Upfront	Total Deal	Years to Exit
2020	\$132M	\$210M	4.8
2019	\$120M	\$220M	7.9
2018	\$195M	\$223M	7.8
2017	\$131M	\$283M	7.7
2016	\$173M	\$260M	8.6
2015	\$125M	\$141M	7.0

C) 2020 Notable M&A Deals

ASCYRUS MEDICAL	Cardiovascular
iota BIOSCIENCES	Neurology
arthrosurface®	Orthopedic
VERAN MEDICAL TECHNOLOGIES and fiagon. confidence in precision	Imaging
acessa and NINE CONTINENTS MEDICAL	Uro/Gyn
intact vascular	Vascular

Healthcare Outlook: 2021 and Beyond

Fundraising and Investments: Coming off a record high in 2020 and with many funds recently raised, we predict a decline in fundraising in 2021 to be in line with 2019's \$10.7B pace. With fresh capital and a continued open IPO window, investments into companies should continue at a healthy pace, likely in the mid \$40Bs.

Biopharma: Strong investment is expected for both Series A and later-stage mezz financings, likely slightly below 2020's record numbers. IPOs should be robust, especially through mid-2021. We predict 50–60 IPOs for the year and more \$1B+ private M&A activity, as large cap pharma M&A deals will compete against going public.

HealthTech: Investments within the sector, at every stage, will remain strong with alternative care leading. As virtual and hybrid care became mainstream during the pandemic, we expect to see more companies in other healthtech subsectors expand into the alternative care space. We anticipate 10–15 IPOs in the next 18 months, with provider operations leading in the number of IPOs but alternative care showing the best post-IPO performance.

Dx/Tools: We predict continued record investment in the sector; deal numbers will likely fall but dollars invested should be similar to 2020. We anticipate an even split between \$1B+ IPOs and M&A, as big-deal IPO/M&A optionality has arrived in the sector.

Device: Series A should bounce back as we saw more medtech-focused firms raise new funds, but most investment will continue to focus on later-stage, mezz deals contemplating near-term IPOs. IPOs and private M&A will remain stable.

Authors



Jonathan Norris
Managing Director
jnorris@svb.com
[@jonnysvb](https://twitter.com/jonnysvb)

Jonathan Norris spearheads strategic relationships with many healthcare VC firms and serial entrepreneurs. In addition, he helps SVB Capital through sourcing and advising on limited partnership allocations and direct investments.

Jonathan speaks at major investor and industry conferences about healthcare VC trends. He has 20+ years of banking experience working with healthcare companies and VC firms.

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



Katherine Harris
Associate
Healthcare Insights
katharris@svb.com

Katherine Harris is responsible for conducting data-driven analyses on the global innovation economy that SVB serves. In this role, she supports global research efforts that explore investment, fundraising, and exit dynamics in the venture ecosystem.

Prior to SVB, Katherine worked at the intersection of basic and clinical research, studying the neurodevelopmental effects of opioids in newborns to advance pediatric treatment strategies.

Katherine graduated from Dartmouth College with high honors, receiving a B.A. in neuroscience.



Dhruv Vig, Ph.D.
Vice President
Healthcare Insights
dvig@svb.com
[@DhruvVigPhD](https://twitter.com/DhruvVigPhD)

Dhruv Vig leverages a combination of SVB's proprietary data, its vantage point within the global innovation ecosystem and healthcare industry knowledge to build global, strategic relationships and to publish thought-leadership pieces.

Prior to SVB, Dhruv co-founded Decoded Health, a primary care-focused healthtech company, and was part of the SRI (formerly Stanford Research Institute) Ventures team.

Dhruv holds a Ph.D. from the University of Arizona and completed a postdoctoral fellowship at Johns Hopkins University in experimental and theoretical cellular biophysics.



Beatriz Atsavaprane
Healthcare Consultant
beatriz@stanford.edu

Beatriz Atsavaprane 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 six years of experience developing new biomedical technologies, from peptide-based therapeutics to microfluidic and bioinformatics tools.

Beatriz earned a B.S. in bioengineering from the California Institute of Technology.

Glossary

Descriptions

Structured Deal defined as a pay-for-performance acquisition where some of the deal value is paid upfront when the deal closes, but also contains additional value based on milestones that must be achieved.

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 any 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.

China defined as both mainland China and Hong Kong.

Device Regulatory Definitions

Non-approved defined as a device product that has no 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 neuro 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 of 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.

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.

Disclaimers

This material including, without limitation, to the statistical information herein, is provided for informational purposes only. The material is based in part on information from third-party sources that we believe to be reliable but which have not been independently verified by us, and for this reason, we do not represent that the information is accurate or complete. The information should not be viewed as tax, investment, legal or other advice, nor is it to be relied on in making an investment or other decision. You should obtain relevant and specific professional advice before making any investment decision. Nothing relating to the material should be construed as a solicitation, offer or recommendation to acquire or dispose of any investment or to engage in any other transaction. All non-SVB-named companies listed throughout this document, as represented with the various thoughts, analysis and insights shared in this document, are independent third parties and are not affiliated with SVB Financial Group. Any predictions are based on subjective assessments and assumptions. Accordingly, any predictions, projections or analysis should not be viewed as factual and should not be relied upon as an accurate prediction of future results.

Silicon Valley Bank, an authorized foreign bank branch under the Bank Act (Canada).

SPD, SHANGHAI PUDONG DEVELOPMENT BANK, and 浦发银行有限公司 are trademarks, separately and in combination, of Shanghai Pudong Development Bank, Ltd. in China, and are used under license. SPD Silicon Valley Bank is a Sino-U.S. joint-venture bank of Silicon Valley Bank, the California bank subsidiary and commercial banking operation of SVB Financial Group, and Shanghai Pudong Development Bank.

Silicon Valley Bank is not licensed to undertake banking business in Denmark or to undertake any other regulated activity in Denmark.

Silicon Valley Bank is registered in England and Wales at Alphabeta, 14-18 Finsbury Square, London EC2A 1BR, UK under No. FC029579. Silicon Valley Bank is authorized and regulated by the California Department of Financial Protection and Innovation and the United States Federal Reserve Bank; authorized by the Prudential Regulation Authority with number 577295; and subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from us on request.

Silicon Valley Bank Germany Branch is a branch of Silicon Valley Bank. Silicon Valley Bank, a public corporation with limited liability (Aktiengesellschaft) under the laws of the U.S. federal state of California, with registered office in Santa Clara, California, U.S.A. is registered with the California Secretary of State under No. C1175907, Chief Executive Officer (Vorstand): Gregory W Becker, Chairman of the Board of Directors (Aufsichtsratsvorsitzender): Roger F Dunbar. Silicon Valley Bank Germany Branch with registered office in Frankfurt am Main is registered with the local court of Frankfurt am Main under No. HRB 112038, Branch Directors (Geschäftsleiter): Oscar C Jazdowski, Joan Parsons.

Silicon Valley Bank and SVB Financial Group UK Limited are not licensed in Ireland to undertake banking business in Ireland or to undertake any other regulated activity in Ireland. SVB Financial Group UK Ltd is registered in England and Wales at Alphabeta, 14-18 Finsbury Square, London EC2A 1BR, UK under No. 5572575.

SVB Israel Advisors Ltd. is a subsidiary of SVB Financial Group. Neither SVB Israel Advisors nor SVB Financial Group is licensed to conduct banking business or provide other financial services in Israel and neither engages in unlicensed banking activities. Banking services are provided by Silicon Valley Bank, a member of FDIC. Silicon Valley Bank is not supervised by the Supervisor of Banks in the Bank of Israel but by the US Federal Reserve Bank and the California Department of Financial Protection and Innovation (DFPI).

If you no longer wish to receive marketing communications from SVB Financial Group or Silicon Valley Bank, you may [unsubscribe](#). Read about our [Privacy Policy](#). If you have any questions or concerns about our privacy policies, please contact us by email privacy@svb.com.

© 2021 SVB Financial Group. All rights reserved. SVB, SVB FINANCIAL GROUP, SILICON VALLEY BANK, MAKE NEXT HAPPEN NOW and the chevron device are trademarks of SVB Financial Group, used under license. Silicon Valley Bank is a member of the FDIC and the Federal Reserve System. Silicon Valley Bank is the California bank subsidiary of SVB Financial Group (Nasdaq: SIVB).



Silicon Valley Bank

About Silicon Valley Bank

For more than 35 years, Silicon Valley Bank has helped innovative companies and their investors move bold ideas forward, fast. SVB provides targeted financial services and expertise through its offices in innovation centers around the world. With commercial, international and private banking services, SVB helps address the unique needs of innovators.

See complete disclaimers on previous page.

© 2021 SVB Financial Group. All rights reserved. SVB, SVB FINANCIAL GROUP, SILICON VALLEY BANK, MAKE NEXT HAPPEN NOW and the chevron device are trademarks of SVB Financial Group, used under license. Silicon Valley Bank is a member of the FDIC and the Federal Reserve System. Silicon Valley Bank is the California bank subsidiary of SVB Financial Group (Nasdaq: SIVB).

#SVBHealthcare

 www.svb.com

 @SVB_Financial

 Silicon Valley Bank

 @SVBFinancialGroup