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Silicon Valley Bank



# China in the Global Healthcare Ecosystem

Strong Venture Growth Drives Innovation

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# Amid Pandemic, Global Venture Investors See Opportunities in China

China's innovation economy is an amazing success story, and Silicon Valley Bank is proud to be part of it – since 1999, when we established our first presence in Shanghai. In 2012, we built on that success when we established SPD Silicon Valley Bank (SSVB), a joint venture with the Shanghai Pudong Development Bank and the first technology and innovation bank of its kind in China.

This dynamic partnership, which now includes branches in Beijing and Shenzhen, has grown to serve Chinese founders and innovation companies with core banking products, including RMB-denominated accounts, while helping promote collaboration and investment by US and EMEA companies in the Chinese innovation economy. In the life science and healthcare space, SVB and SSVB together serve more than 3,500 clients globally, with the shared mission to increase our clients' probability of success and be the most sought-after partner globally for innovators, enterprises and investors.

Underscoring this commitment, I'm pleased to share this inaugural China healthcare report, produced in collaboration with SSVB. The report highlights China and cross-border trends from SVB's rich proprietary intelligence, as well as insights from interviews with more than two dozen companies and investors in the US, Shanghai and Beijing. It comes six years after we launched the Healthcare Capital & Connections Summit, a global cross-border healthcare conference in Shanghai, to nurture US, EMEA and China collaborations and partnerships.

While the global COVID-19 pandemic continues to dominate headlines, the US and China – the world's two largest healthcare markets – are working to solve enormous healthcare challenges. On the global healthcare stage, biopharma is consistently the leading subsector in terms of invested capital. China remains a strong contributor and value driver due to its skilled workforce and growing consumer demand to address the healthcare priorities of its growing middle class and aging population.

While we're faced with many uncertainties in 2020, the fundamentals for healthcare and the life sciences remain strong, and the tightknit community that composes our industry is positioned to navigate the path forward – together. Healthcare and technology will continue to converge on a global scale, and with SVB's global footprint and position at the center of the innovation ecosystem, we're well prepared to help you succeed. The future of truly disruptive healthcare innovation is here – and it's global.



## Katherine Andersen

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Relationship Banking, Silicon  
Valley Bank  
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# Executive Summary

## Strong Venture Growth Drives Innovation

The global\* healthcare innovation ecosystem has raised \$35B in 2020, led by the US with \$22.6B (65%), followed by China with \$6.7B (19%) and Europe with \$5.5B (16%). Despite financial headwinds from the COVID-19 pandemic, there have been 81 \$100M+ global,\* venture-backed healthcare rounds, nearly tripling 2019's totals during the same period.

In 2020, US healthtech overtook US biopharma in terms of deal count (301 deals vs. 261 deals); however, biopharma still reigns in terms of total invested capital (\$10.6B compared to healthtech's \$7B). In China, biopharma has maintained the lead over other sectors on both fronts, with 80 deals and \$3.4B invested capital. China's dx/tools is second with \$1.8B invested across 60 deals.

COVID-19 has not thwarted private, venture-backed healthcare companies from raising money and closing active deals. In 2020, New York City (US) and Shanghai (CN) have led the world in deals, with healthcare companies in each city completing a total of 71 deals worth \$2B. The three remaining top five cities are San Francisco (US) with 64 deals (\$2.5B), Cambridge, Mass. with 51 deals (\$2.6B), and Beijing (CN) with 43 deals (\$729M).

Likewise, geopolitical and macroeconomic forces have not inhibited cross-border activity, as 2020 has seen an uptick in China-based investors participating in US and European company deals. In fact, these syndicated investments have already totaled \$5.6B, up from 2019's \$3.5B. Cross-border deals have been driven largely by investors with healthcare interests, as China's BAT has substantially decreased its investment into the US since 2019.

This year, China has seen 22 venture-backed companies go public (\$4.2B total raised IPO proceeds), with an astounding 18 (82%) having a \$1B+ market cap. The biopharma sector dominates the public markets, accounting for 13 (59%) of the 22 IPOs in 2020. The strong post-IPO performance of companies on local mainland China and Hong Kong markets have made them attractive options for entrepreneurs seeking an exit opportunity. This year, 12 companies (55% of 2020 IPOs) have gone public on the mainland China exchanges, ChiNext Market or STAR Market, raising combined IPO proceeds of \$2.1B (54% of total).

\*Global is defined as only the US, Europe, mainland China and Hong Kong. \*\*Top five diseases are defined as diabetes, oncology, cardiovascular, neurological and respiratory disorders. BAT defined as Baidu, Alibaba and Tencent. Financing data include private financings by venture-backed companies that are based in mainland China, Hong Kong, US, and Europe. Dates of financing rounds subject to change based on add-on investments. 2020 numbers through 8/31/20 with any previous year comparison being made through an analogous time frame. Market cap was calculated as of 8/31/20. Source: PitchBook, Capital IQ, SVB proprietary data and SVB analysis.

## Global\* Healthcare Market Stats

**545M**

the projected number of global seniors (65+) who will have a top five disease\*\* in 2030.

**\$35B**

the total raised in 2020 for global, venture-backed healthcare companies.

**81**

the number of \$100M+ global, venture-backed healthcare rounds in 2020.

**\$12B**

the total IPO proceeds raised by global, venture-backed healthcare IPOs in 2020.





# Macro Incentive and Opportunity for Innovation in China



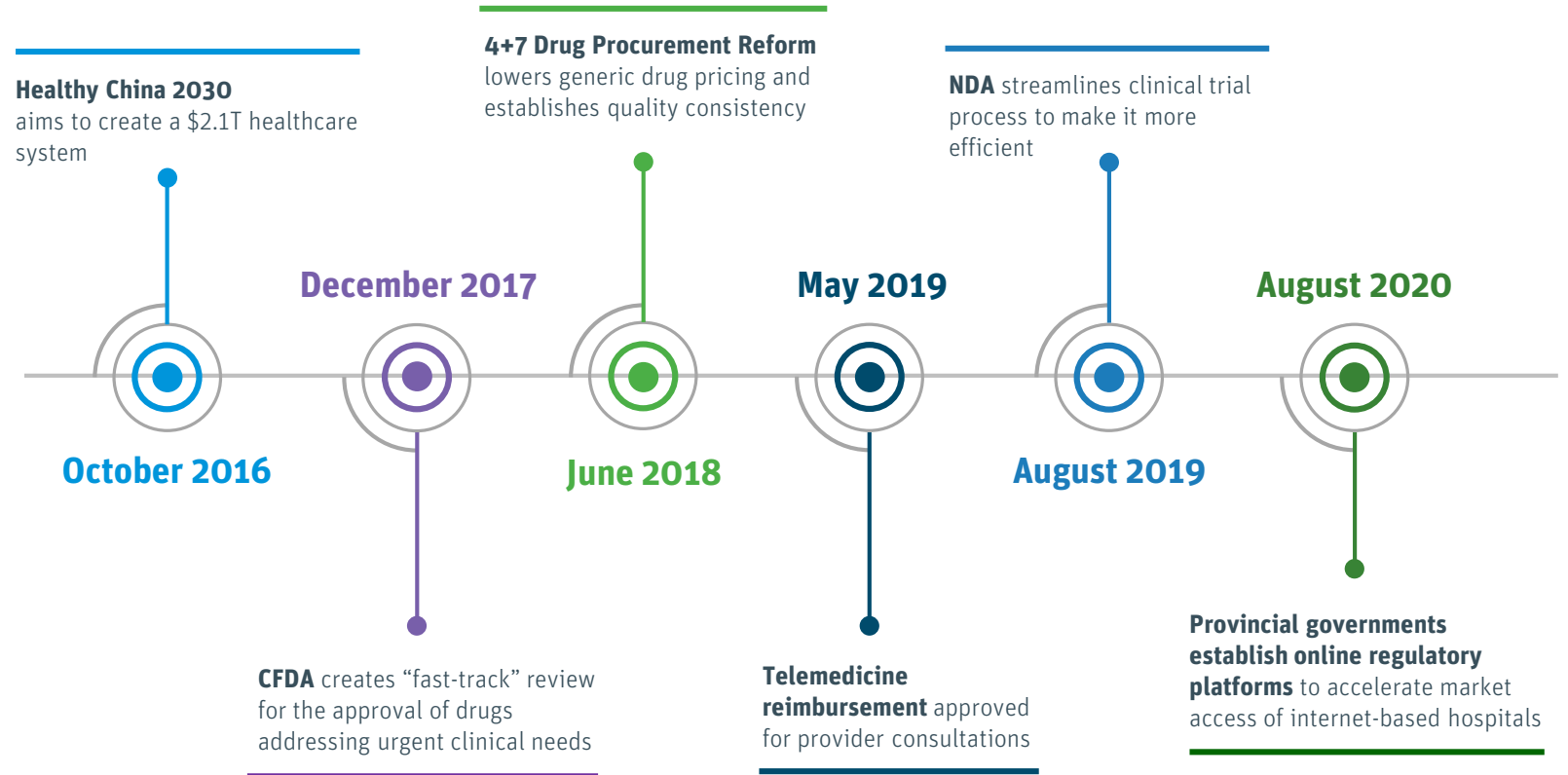
## China's Government Incentivizes Innovation

Over the last decade, China's government has introduced a plethora of healthcare system reforms, ranging from increasing R&D funding and revamping market authorization requirements to accelerating clinical trial processes and overhauling distribution channels.

This government push took off in 2015 with the Chinese government's Made in China 2025 initiative. The goal of MiC2025 was to transform China into a global R&D and manufacturing powerhouse, allocating over \$1.2T to encourage on-the-ground, in-house innovation across all healthcare sectors. Since MiC2025's launch, a series of similar initiatives has followed, each striving to pump capital into China's healthcare innovation economy while increasing the speed and capacity of China's development and distribution processes.

In 2020, China kicked off the year on a high note, with the NMPA approving the First Class III AI-enabled medical device developed by Deep Vessel. However, soon thereafter, turbulence from the COVID-19 pandemic resulted in China's first GDP contraction (-6.8%) in over a decade. Despite this setback, China still predicts a positive GDP for 2020 (+1.2%) and has pledged \$2B over two years to help with the global COVID-19 response.

## Timeline of China's Marquee Healthcare Initiatives and Events 2016–2020





## China's Healthcare System Directs Global Spotlight

With 1.4 billion potential consumers, significant market opportunity and a budding cohort of talent, some of the world's largest healthcare companies are ramping up their bets on China's healthcare market, establishing joint ventures and making investments into the nation's healthcare ecosystem.

Compared to the US and Europe, our 2030 projections name China as having the largest patient population (1.2B) for all top disease indications across age groups.

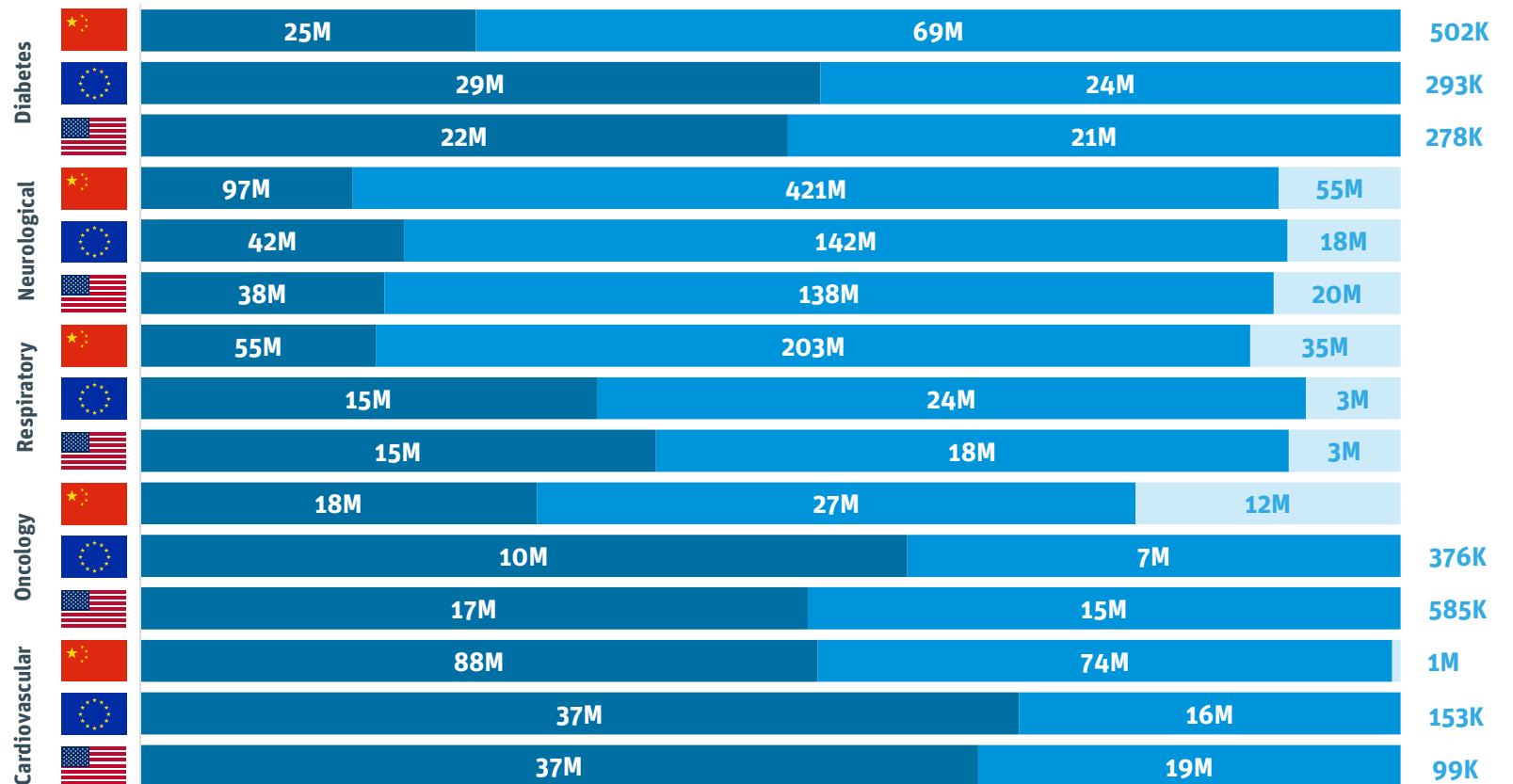
To further healthcare players' desire to tap into the auspicious market, China's population is aging at a rate that few countries can match. Its elderly population (aged 65+) has risen from 7.9% in 2009 to 11.4% in 2019 and is projected to reach 15.9% by 2030.

Compounding matters, China's hospital systems have struggled to keep up with the growing demand for healthcare services. China has 1.8 doctors for every 1,000 patients whereas the US and UK have 2.4 and 2.8, respectively.

The next few years will serve as an important opportunity for China's innovation economy to develop solutions to aid the strained system and establish itself as a competitive alternative or complement to the country's larger healthcare providers.

## Projected 2030 Global Disease Prevalence China, Europe and United States

■ Seniors (65+ yrs) ■ Adults (15-64 yrs) ■ Children (<15 yrs)







# Venture-backed Healthcare Investments China and Cross-border

## Led by Biopharma and Dx/Tools, 2020 \$s Already at 2019's Level

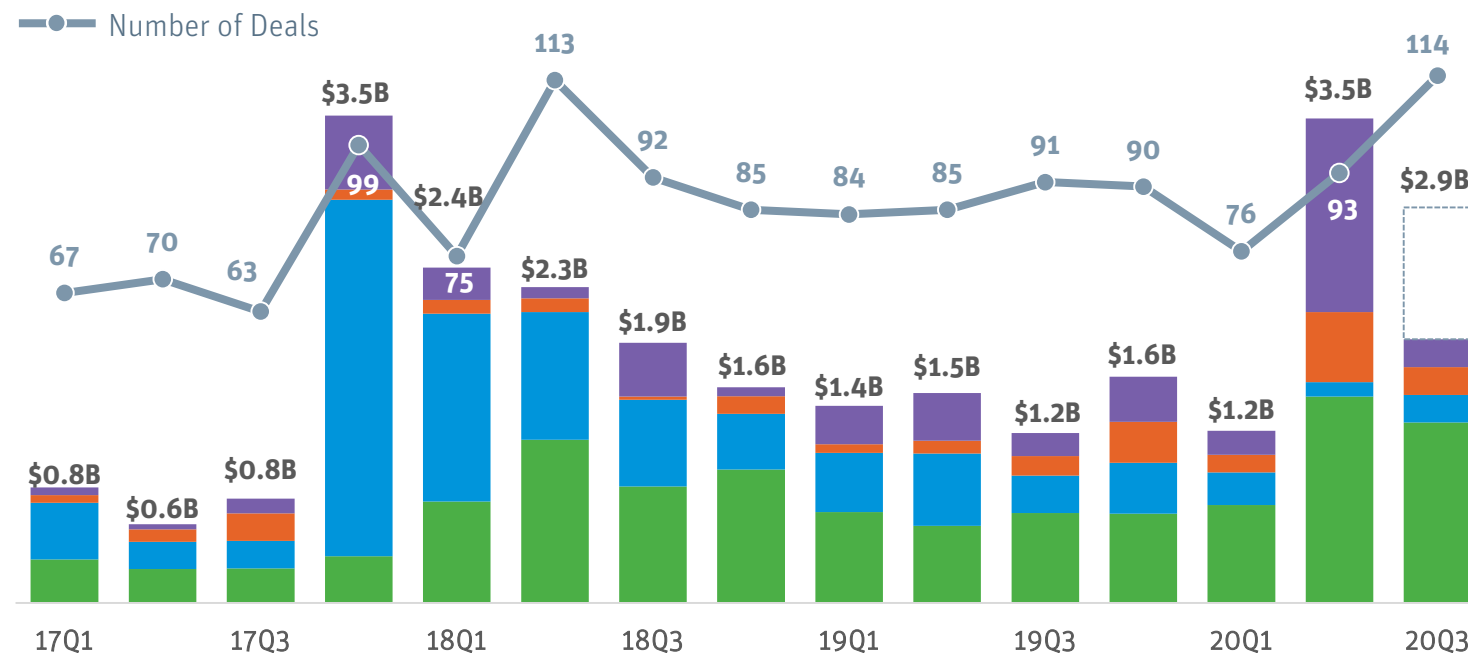
While 2017's first three quarters of funding were relatively slow, the year ended with healthtech's Ping An Healthcare and Technology's staggering \$2.2B deal in December. Dx/Tools also netted three \$100M+ deals in Q4.

This momentum carried through to 2018, the breakout year for China's healthcare market. 2018's historic \$8.1B in venture-backed healthcare was primarily fueled by two marquee events: Ping An Medical and Healthcare Management's \$1.2B round, led by SoftBank, and WeDoctor's \$500M round, co-led by AIA Qiming and NWS Holdings.

2019 funding was up slightly from 2017 but down nearly 30% from 2018. This decrease in funding can largely be attributed to a drop-off in biopharma and healthtech investment, as dx/tools and device funding remained relatively constant.

Q2 2020 sported the second-largest quarter investment total to date for venture-backed healthcare companies in China (led by MGI's \$1B deal and Mabwell's \$278M deal), despite financial market unease and potential company setbacks due to the COVID-19 pandemic. Notably, this resilience was also seen in the US venture-backed healthcare market, which showed a 32% increase in total 1H 2020 funding when compared to its 2H 2019 counterpart. On the other hand, Europe saw a -14% investment decrease during the same period.

## VC Dollars and Deals by Healthcare Sectors Mainland China and Hong Kong, 2017–2020



| Sectors (\$M) | 2017           | 2018           | 2019           | 2020*          |
|---------------|----------------|----------------|----------------|----------------|
| Biopharma     | \$1,146        | \$3,709        | \$2,500        | \$3,448        |
| HealthTech    | \$3,370        | \$3,297        | \$1,588        | \$610          |
| Device        | \$418          | \$350          | \$589          | \$871          |
| Dx/Tools      | \$729          | \$767          | \$1,111        | \$1,810        |
| <b>Total</b>  | <b>\$5,663</b> | <b>\$8,123</b> | <b>\$5,788</b> | <b>\$6,739</b> |



## Four \$1B+ Healthcare Companies in China, on Par with Europe

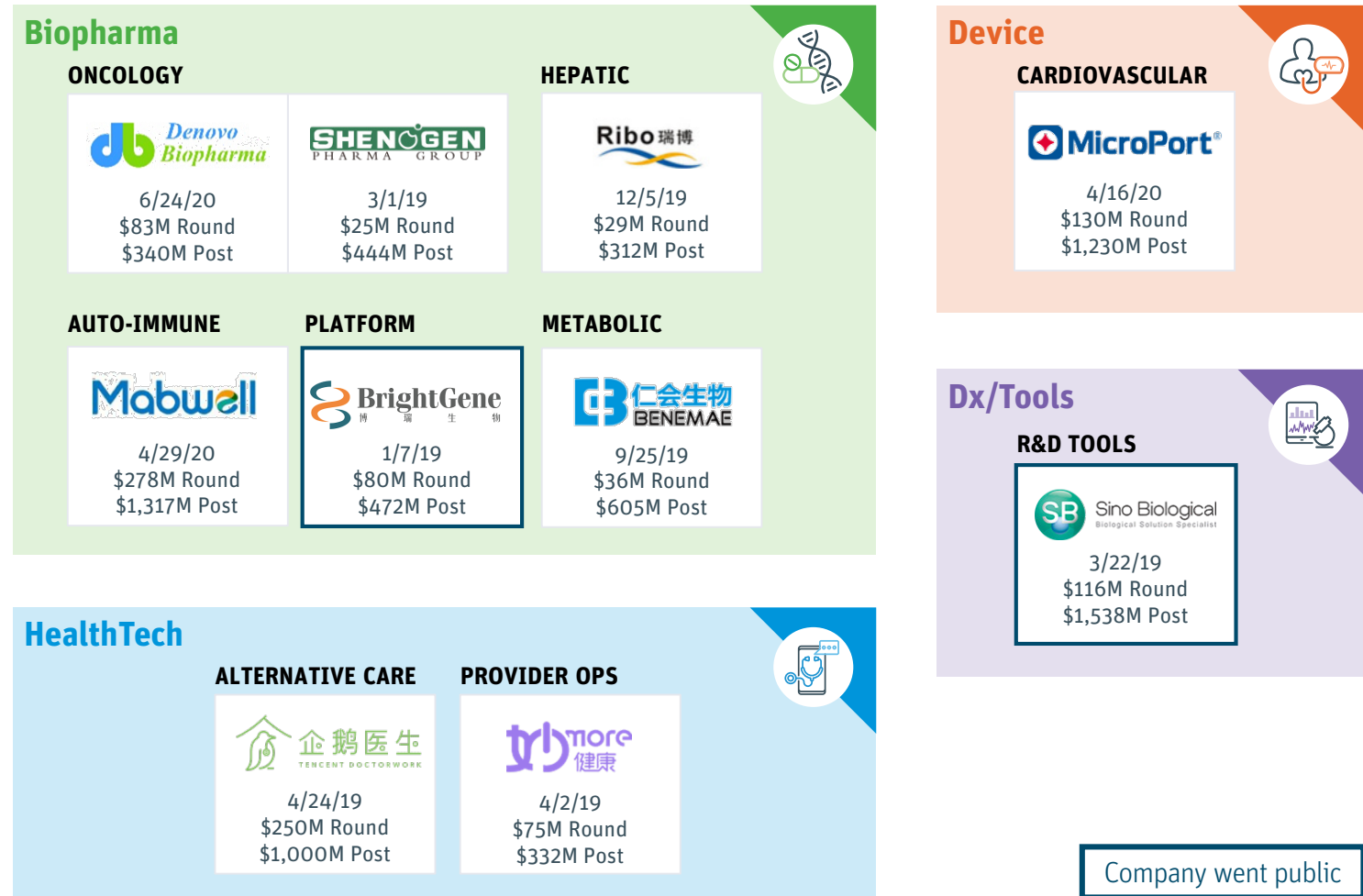
This list contains the highest-valued private companies since 2019, all with publicly disclosed post-money valuations of \$300M+.

Since 2019, four companies in China have achieved the coveted \$1B+ post-money private valuation — on par with Europe but still behind the US's 18.

The median round size for this group was \$82M, with a pre-money valuation of \$494M. Two of these companies have gone public on the Shanghai Stock Exchange: BrightGene (11/2019) and Sino Biological (6/2020). BrightGene priced its IPO at \$1.82 per share and is now trading up +368% with a \$3.5B market cap. Sino Biological priced its IPO at \$3.69 per share and is now trading up +212% with a \$5B market cap.

The ubiquitous nature of healthcare pain points has given rise to doppelgängers across China, the US and Europe. For example, Tencent Trusted Doctors (healthtech), who focuses on providing care outside of the hospital, is comparable to the US's OneMedical (Nasdaq: ONEM, \$1.97B post) and the UK's Babylon Health (\$2B post on a \$550M round). Likewise, MicroPort (device), who focuses on structural heart disease, is comparable to the US's Foldax (\$150M post on a \$20M round) and Ionetix (\$131M post on a \$61M round).

## Post-Money Private Healthcare Companies (\$300M+) Mainland China and Hong Kong, 2019–2020



## Biopharma and Series B/Later-Stage Deals Draw the Most Interest

In the past three years, there have been an impressive 57 \$100M+ financings in the private venture-backed China healthcare market – more than Europe’s 21 but still shy of the US’s incredible 155. In China, these mega-rounds were syndicated with corporate investors 30% of the time.

The most active investors listed on this page prefer to invest in Series B or later-stage financings approximately 60% of the time, with biopharma drawing the most total investments by venture capitalists located in China and abroad.

On the other hand, the corporates on this page have preferred to invest in healthtech (33 deals) and dx/tools (24 deals) over biopharma (19 deals) and device (7 deals). Together, they have led 18 healthtech deals, 8 dx/tools and 5 biopharma and device deals.

The top three most active investors in 2020 during the COVID-19 pandemic – Qiming Venture Partners (14 deals), Sequoia Capital China (11 deals) and Hillhouse Capital Group (eight deals) – have made a combined 19 investments in the biopharma sector.

## Most Active Investors Number of Deals (Mainland China and Hong Kong, 2018–2020)

| Venture Capital<br>(HQ'd in China / HK) |   | Venture Capital<br>(HQ'd outside of China / HK) |   | Corporate Investor |   |
|---|---|---|---|--------------------|---|
| 59                                      |    | 11  |    | 17                 |    |
| 35                                      |    | 11  |    | 16                 |    |
| 27                                      |    | 8   |    | 13                 |    |
| 23                                      |    | 7   |    | 12                 |    |
| 22                                      |    | 6   |    | 12                 |    |
| 22                                      |    | 6   |    | 12                 |    |
| 22                                      |   | 6   |   | 11                 |   |
| 21                                      |  | 5*  |  | 9                  |  |



# Shanghai Ties San Francisco; Six \$1B+ Regions for HC Investments

Shanghai dominates China's healthcare funding with \$7.2B raised from 2018–2020. For perspective, San Francisco — the second highest-funded city in the world in terms of venture-backed healthcare investment (second only to Cambridge, Mass.) — raised \$ 7.3B during this same period. Over 60% of Shanghai's healthcare investment has gone toward biopharma, followed by healthtech (27%), device (7%) and dx/tools (6%).

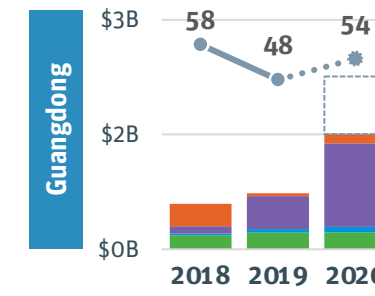
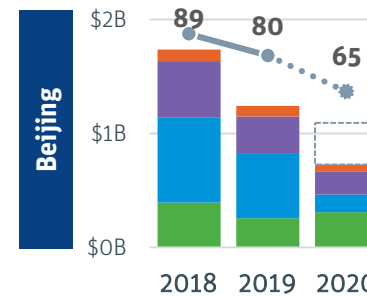
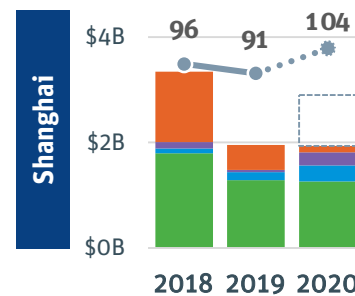
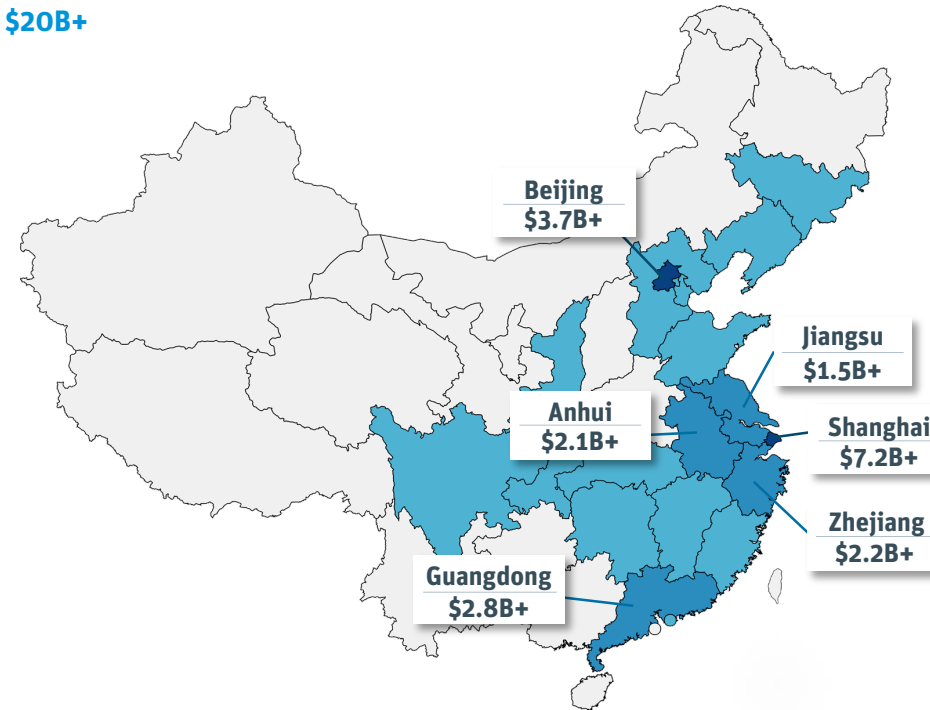
Beijing trails Shanghai in overall funding and deals; however, the city still boasts relatively high investment numbers. For example, Beijing's \$3.7B in funding is comparable to the sum of both France (\$2.3B) and Germany's (\$1.7B) venture-backed investment. Unlike Shanghai, Beijing's investment favors healthtech and dx/tools, with 39% and 28% of the city's healthcare funding going toward each sector, respectively. Biopharma tracks closely behind at 26%, followed by device at 7%.

Notably, the Guangdong province has seen a recent shift from backing healthtech companies to primarily funding dx/tools startups. In 2018, dx/tools received just 16% of the province's funding. In 2019–2020, dx/tools skyrocketed to comprising 68% of the province's investment. MGI Tech's \$1B deal in 2020 is a large contributor to this jump in sector funding.

## \$1B+ Regions for Healthcare Innovation VC Deals and Dollars, 2018–2020

Total Raised: \$20B+

- \$3.0B+
- \$1.0B+
- <\$500M



Device  
Dx/Tools  
HealthTech  
Biopharma

# China Biopharma 2<sup>nd</sup> in the World to US; Oncology/Platform Dominate

Over the last three years, biopharma has led China's venture-backed healthcare financings, attaining an impressive \$9.7B. China is also the second-largest source of biopharma funding in the world (behind the US), surpassing the UK by more than fourfold.

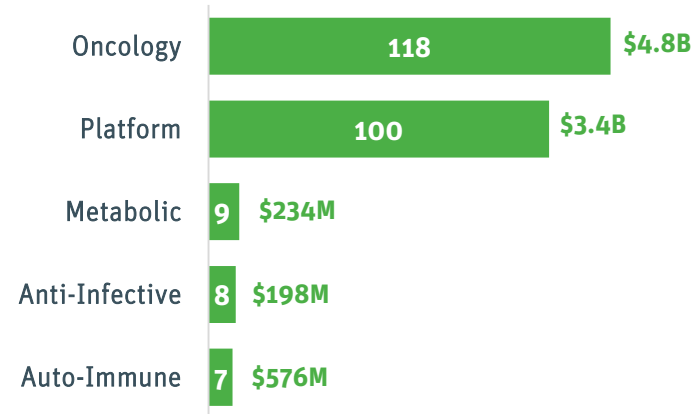
In 2018 alone, China saw three \$250M+ deals: Genor Biopharma (platform), Brii Biosciences (platform) and CStone Pharmaceuticals (oncology), two of which had at least one cross-border investor.

While 2018's \$3.7B raised is China's largest biopharma funding YTD, 2020 is steadily encroaching on that record. In Q2 2020 alone, China's venture-backed biopharma companies set a quarterly record of \$1.5B in financings, led by Mabwell's (auto-immune) \$278M Series A.

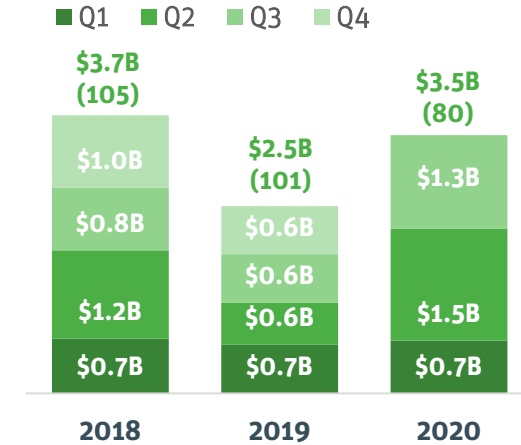
From a geographic standpoint, Shanghai dominates year over year. In 2019, the city accounted for more than half of the country's entire biopharma funding; 2018 and 2020 saw 45% and 40%, respectively. Similarly, the city typically comprises more than one-third of all annual biopharma deals.

Of note, several China-based biopharma startups have aided in COVID-19 research. For example, Livzon MABPharm (platform), who raised a \$50M round in 2018, is working on COVID-19 tests.

## Biopharma Deals by Top Indications Mainland China and Hong Kong 2018-2020



## Total \$ and (Deals) Mainland China and Hong Kong



## 2018-2020 Deals

>250M

2020 Financing

\$150M+ to \$250M

\$125M+ to \$150M



## 2018 Financings Set China Record; Shanghai and Beijing Share Lead

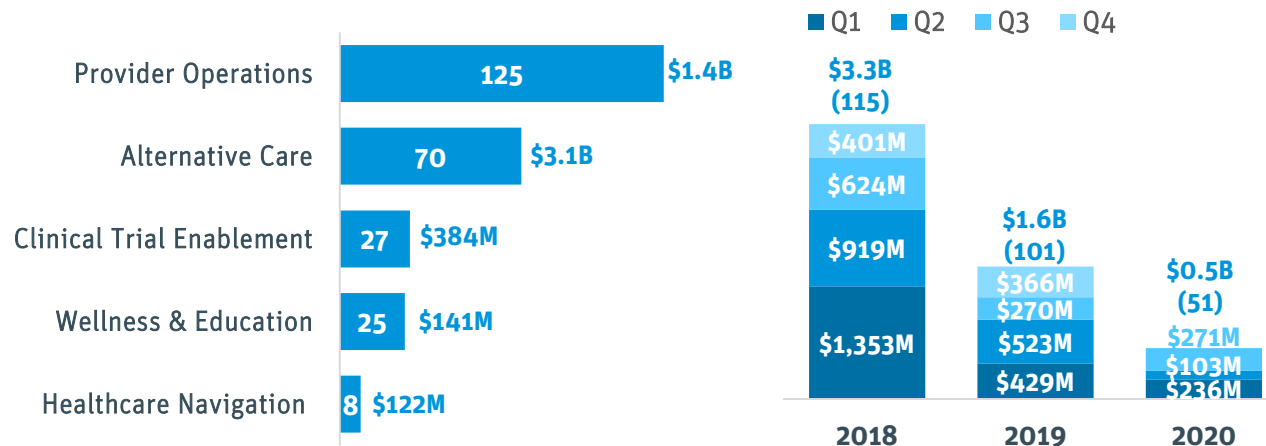
As with biopharma, China's healthtech market ranks second in the world (behind the US) in terms of venture capital (VC) raised. In 2018, healthtech funding saw a significant surge, stemming from Ping An Medical and Healthcare Management's (alternative care) \$1.2B deal and WeDoctor's (alternative care) \$500M financing. Ping An's \$1.2B deal is the largest alternative care deal the global\* healthtech sector has ever seen.

Interestingly, China's healthtech funding dropped in 2019 (-45%) and continued to plunge in 2020 (-64%), while both the US and Europe saw increases in funding year-over-year. Two possible explanations for the cooling of investors' activity in the sector are the high valuations and lack of notable exits for China-based healthtech companies.

While provider operations has seen more deals than any other healthtech sector, alternative care companies have received more funding. The median later-stage\*\* deal size for alternative care deals is \$30M whereas for provider operations it is half, or \$15M.

Both Beijing and Shanghai are neck-and-neck in terms of healthtech deals and dollars across China. Over the last three years, Shanghai has comprised 35% of China's healthtech funding in comparison to Beijing's 27%. On the other hand, Beijing has housed 36% of China's healthtech companies that closed deals in 2018-2020. Only 25% of these companies were headquartered in Shanghai.

### HealthTech Deals by Top Indications Mainland China and Hong Kong 2018-2020



### 2018-2020 Deals



## Q3 2020 Totals Break Previous Annual Investment Records in China

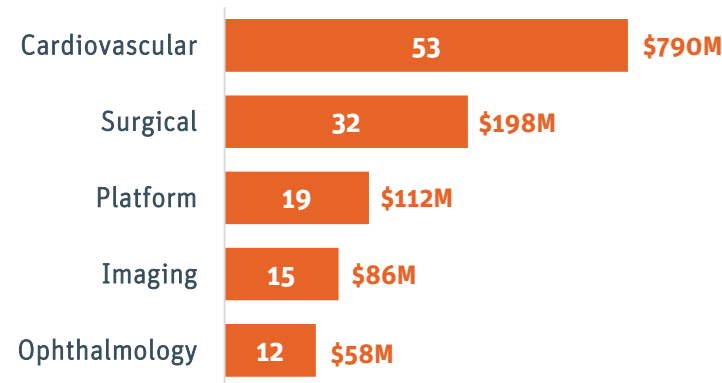
Compared to the US and European countries, China (\$1.8B) ranks second in device funding, trailing behind the US (\$10.6B) but undoubtedly eclipsing France (\$512M) and the UK (\$456M), which are ranked third and fourth in global\* device financings, respectively.

The median deal size for later-stage\*\* cardiovascular deals is more than double that of surgical device deals: \$33M vs. \$14M, respectively. Interestingly, in the US, these comparable data are remarkably smaller. The median later-stage cardiovascular deal is \$16M, and surgical is \$10M.

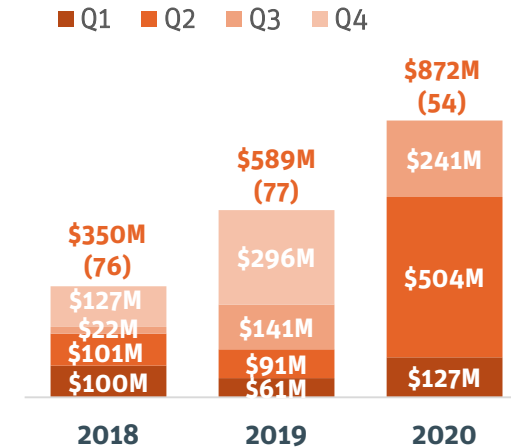
From a geographic standpoint, Shanghai startups consistently receive one-quarter of China’s device funding, which is the largest average percentage of all of China’s cities and provinces. That said, in 2020, the Anhui province accounted for more than 50% of China’s device funding, with Peijia’s \$150M deal contributing significantly to this shift.

Notably, 2020 funding has already surpassed that of 2018 and 2019’s annual investment totals, designating 2020 as the reigning year for China’s device funding, despite still having Q4 to go. Two companies, Peijia Medical (\$150M) and MicroPort (\$131M), have breached the \$100M milestone in 2020. Both are focusing on cardiovascular solutions.

### Device Deals by Top Indications Mainland China and Hong Kong 2018–2020



### Total \$ and (Deals) Mainland China and Hong Kong



### 2018–2020 Deals

**>100M**

2020 Financing

**\$25M+ to \$100M**

\*Global is defined as only the US, Europe, mainland China and Hong Kong. \*\*Later stage defined as any round that occurs after a first-round institutional or corporate venture investment that is greater than or equal to \$2M. CF PharmTech closed two rounds in 2020 (\$89.9M on 1/2/2020 and \$50.8M on 7/2/2020). Financing data include private financings by venture-backed companies that are based in mainland China and Hong Kong. Dates of financing rounds subject to change based on add-on investments. 2020 numbers through 8/31/20. Source: PitchBook, SVB proprietary data and SVB analysis.



## 3-Year Funding Reaches \$3.7B, Led by MGI's \$1B Giga-Round in 2020

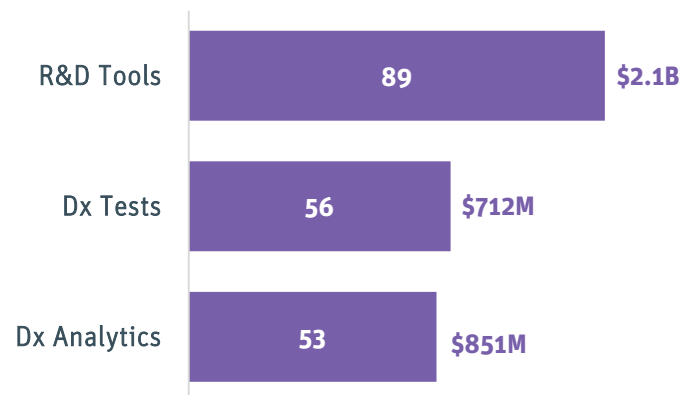
Once again, China surpassed Europe's top-funded countries to seal its second-place seat in dx/tools financings. Aside from the US (\$11.7B), China (\$3.7B) is the only other country to break the \$1B funding glass ceiling during the 2018–2020 period.

In addition, dx/tools has seen a massive shift in funding based on geography. In 2018, Beijing-based dx/tools companies accounted for 65% of China's overall dx/tools funding. However, in 2019, that percentage dropped to 30%; in 2020, it fell to just 10%.

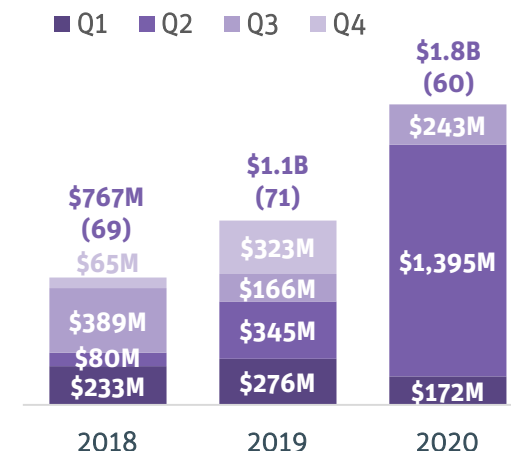
At a high level, Beijing seemingly went from being the dx/tools hub to being one of the sector's lesser-funded cities, with Guangdong taking Beijing's seat at the head of the dx/tools funding table, raking in 61% of dx/tools funding in 2020. However, after removing Guangdong's \$1B deal raised by MGI (R&D tools), the largest dx/tools deal ever recorded globally,\*\* Beijing still emerges as the leader in housing the biggest contingent of dx/tools deals and dollars over the last three years.

Notably, 17 China-based dx/tools companies are developing solutions to aid in the fight against COVID-19. This cohort has raised \$1.6B over the last three years.

### Dx/Tools Deals by Top Indications Mainland China and Hong Kong 2018–2020



### Total \$ and (Deals) Mainland China and Hong Kong 2018–2020



### 2018–2020 Deals

>200M

2020 Financing

\$100M+ to \$200M

\$50M+ to \$100M

\*Working on COVID-19 Tests

## China's Cross-Border Healthcare Investments Shoot Up in 2020

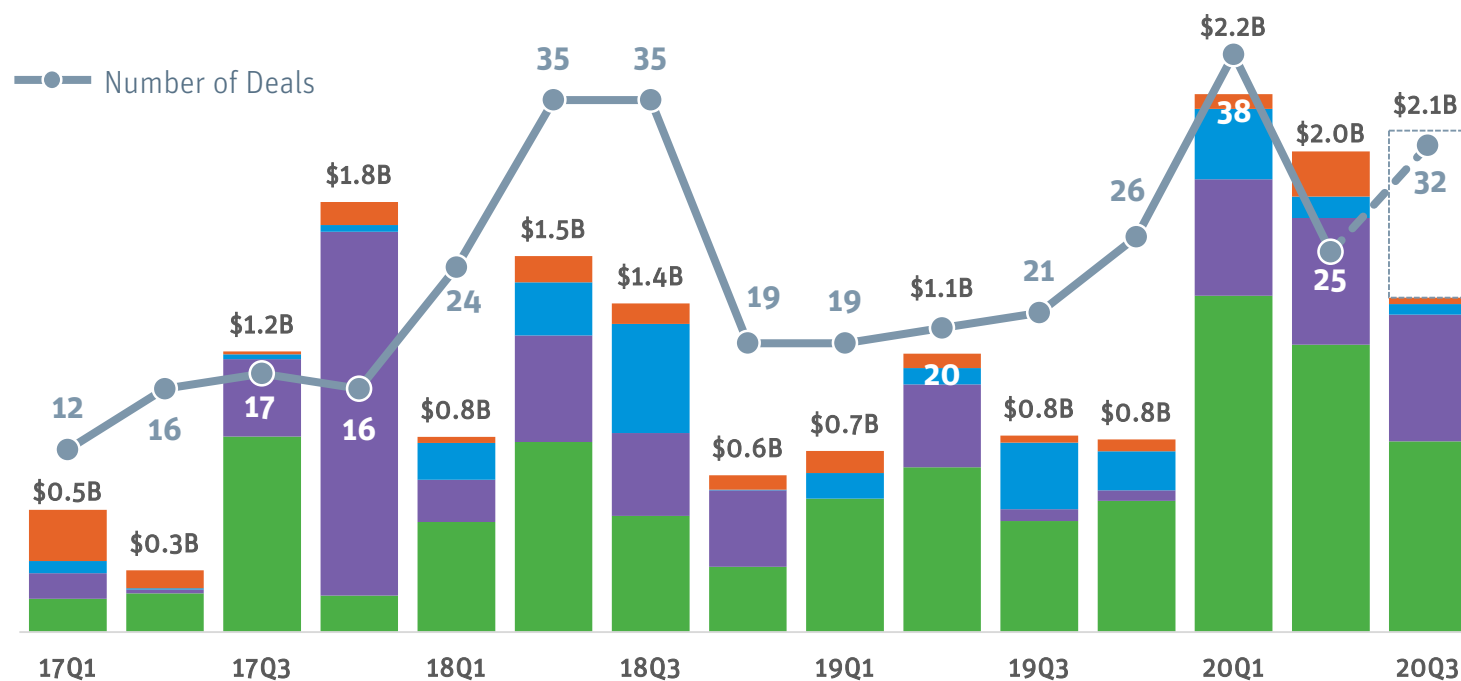
From Q1 2017 to Q4 2017, the total number of US and European financings syndicated with China-based investors increased by 140%. While Q4 2018 to Q4 2019 saw a notable decline in deals syndicated with China-based investors, this decrease mirrored China's overall 2019 funding drop. Therefore, it is more likely that 2019 was simply a down year rather than geopolitical factors being at the root cause.

In 2020, both deal count and financing totals were up, with Q1 2020 exhibiting the highest deal and dollar numbers on record for syndicated China investments and Q3 2020 expected to be the second highest cross-border funding quarter to date.

China-based investors elect to invest most heavily in cross-border biopharma deals. In fact, this trend nearly translates to quarter over quarter with one exception. In Q4 2017, dx/tools received more funding due to China-based investors participating in GRAIL's \$1.2B financing.

While 2018 still holds the crown for most deals with China-based syndicated investment (113 deals), 2020 has already stolen the title for sheer funding. The total funding for US and European deals syndicated with China-based investors in 2020 amounts to \$5.6B. 2018's annual total was \$4.3B, and 2019's was \$3.5B.

## China's Syndicated Activity into VC-Backed Companies US and Europe 2017-2020



| Sectors (\$M) | 2017                  |                | 2018                   |                | 2019                   |                | 2020*                    |                |
|---------------|-----------------------|----------------|------------------------|----------------|------------------------|----------------|--------------------------|----------------|
|               | US / Europe           | Total          | US / Europe            | Total          | US / Europe            | Total          | US / Europe              | Total          |
| Biopharma     | \$1,232 / \$18        | \$1,250        | \$1,708 / \$271        | \$1,979        | \$2,193 / \$29         | \$2,222        | \$2,874 / \$473          | \$3,347        |
| Dx/Tools      | \$1,925 / \$10        | \$1,935        | \$1,163 / \$105        | \$1,268        | \$434 / \$0            | \$434          | \$1,181 / \$341          | \$1,522        |
| HealthTech    | \$387 / \$5           | \$392          | \$248 / \$30           | \$278          | \$108 / \$120          | \$228          | \$127 / \$145            | \$272          |
| Device        | \$84 / \$18           | \$102          | \$710 / \$110          | \$820          | \$281 / \$324          | \$605          | \$333 / \$88             | \$421          |
| <b>Total</b>  | <b>\$3,628 / \$51</b> | <b>\$3,679</b> | <b>\$3,829 / \$516</b> | <b>\$4,345</b> | <b>\$3,016 / \$473</b> | <b>\$3,489</b> | <b>\$4,515 / \$1,047</b> | <b>\$5,562</b> |



## VCs Are 2x More Likely to Participate in Cross-Border Deals than CVCs

▲ In the past three years, China-based venture capital firms (VCs) have been more active within biopharma than any other healthcare sector, investing in biopharma deals 56% of the time. Dx/Tools trails at 24%, followed by device (14%) and healthtech (6%).

Of the investors on this page, six of the seven VCs have led at least one round for a company based in either the US or Europe. Likewise, of the six corporate investors, each has led a round for a US/European company in the last three years.

VCs are more apt to lead a round than corporate venture capital firms (CVCs), with VCs leading a staggering 50% of cross-border healthcare investments. On the other hand, CVCs lead roughly one out of every four rounds.

China's cross-border investors fund both Series A and later-stage deals but seem more keen on investing in later-stage companies. In fact, China-based investors who participate in US and European rounds tend to invest in later-stage deals 73% of the time.

For corporate investors, Lilly Asia and WuXi follow the same trends as VCs, while tech investors, such as Tencent and Baidu, prefer dx/tools and have been equally involved in Series A and later-stages rounds.

## Most Active China Investors into US and European Venture-Backed Companies Number of Deals (2018–2020)

| Venture Capital |   | Corporate Investor |  |
|-----------------|---|--------------------|--|
| 17              |    | 15                 |   |
| 14              |    | 9                  |   |
| 11              |    | 8                  |   |
| 10              |    | 6                  |   |
| 7               |    | 5                  |   |
| 6*              |   | 4                  |  |
| 6*              |  |                    |  |

\*Additional investors have the same number of deals but are not included because of space limitations. Financing data include private financings by venture-backed companies that are based in mainland China and Hong Kong. 2020 financing data are compiled through 8/31/20. Dates of financing rounds subject to change based on add-on investments. Investors must have at least 4 total investments within 2018–2020 to be considered. Corporate parent and corporate venture investment are combined under corporate investor. Source: PitchBook and SVB proprietary data.

## BAT's Interest in the US Wanes; US Tech Remains Focused at Home

Big Tech\* has participated in 135 deals in the global\*\* healthcare innovation ecosystem since 2017. These corporates invest in Series B or later-stage deals 60% of the time.






Of China's top tech companies – Baidu, Alibaba and Tencent (BAT) – only Baidu and Tencent (BT) have made cross-border investments into US-based healthcare companies. Alibaba has preferred to stay local with its healthcare investments (four deals since 2017).

Seventeen (68%) of the 25 investments that BT has syndicated in US-based companies were in California (sixteen located in the Bay Area). Despite this interest in the US, BT investments have declined in the past two years with only six investments (four Baidu, two Tencent). This fading interest has been due, in part, to the high valuations of US healthcare companies.

The parallel to BAT is the US's FAAMG, which has focused only on US and European companies since 2017. Facebook and Apple have participated in zero venture-backed financings, and Amazon has been in only one (GRAIL's \$1.2B in Q4 2017).

Since 2017, Microsoft and Google (Alphabet) have focused on their local markets with only one to two investments per year in European companies. Alphabet has participated in 68 US-based rounds with a focus on biopharma (32 deals) and healthtech (21 deals) over dx/tools (13 deals) and device (2 deals).

## Big Tech's\* Activity in Healthcare China, US and Europe

| Number of Deals  |               | 2017   | 2018   | 2019   | 2020   |
|--|---------------|--------|--------|--------|--------|
|    | (US / China)  | 8 / 4  | 12 / 5 | 2 / 15 | 3 / 2  |
|  | Total         | 12     | 17     | 17     | 5      |
|    | (US / Europe) | 21 / 3 | 19 / 4 | 19 / 1 | 16 / 1 |
|  | Total         | 24     | 23     | 20     | 17     |

## Notable Healthcare Deals by Most Active Tech Corporates 2017–2020



\*Big Tech defined as BAT and FAAMG. Financing data include private financings by venture-backed companies that are based in mainland China and Hong Kong. Investor HQ defined from primary investor HQ from PitchBook. Dates of financing rounds subject to change based on add-on investments. 2020 numbers through 8/31/20. Corporate parents include all known subsidiaries and/or VC arms listed on PitchBook. \*\*Global defined as the US, mainland China, Hong Kong and Europe only. \*\*\*Company also fits SVB's categorization for healthtech. Source: PitchBook, SVB proprietary data and SVB analysis.

## European Countries lead US-based HC M&A Deals; China Ninth Globally

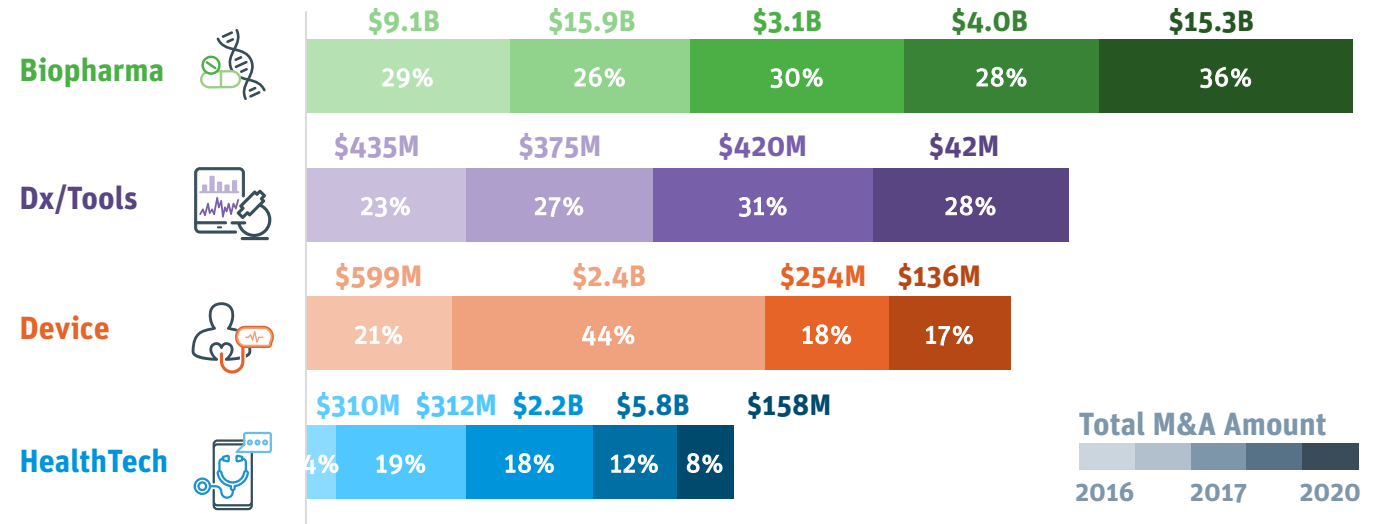
CFIUS, a committee dedicated to examining the national security implications of foreign investments in the US, has increased its reviews by more than 300% since 2009. FIRRMA's launch in 2018 expanded CFIUS's scope, allocating an additional \$20M/year to CFIUS. We project that nearly 400 transactions will be reviewed by the end of 2020.

CFIUS has been considered a major headwind for China-based investors and it has resulted in at least one well-publicized healthcare divestiture: PatientsLikeMe (healthtech), which allowed patients to share their data with one another. In this specific case, CFIUS forced the company's majority stakeholder, iCarbonX, to divest its stake, resulting in PatientsLikeMe getting acquired by United Health Group.

However, in terms of healthcare M&A deals by foreign acquirers, globally, China-based acquirers are ranked ninth compared to the rest of the world. Acquirers based in European countries lead US M&A deals, with the top four countries (UK, Ireland, Switzerland and Germany) having acquirers who have bought 71 private healthcare companies since 2016.

While CFIUS concerns may still exist for European-based acquirers, no foreign acquisitions of US dx/tools or device companies have occurred in 2020, and only three healthtech acquisitions were seen.

## US VC-Backed M&A Deals by Foreign Acquirers



## Number of US Healthcare M&A Deals by Acquirer Country 2016–2020

|                    | UK       | Ireland  | Switzerland | Germany | Japan   |
|--------------------|----------|----------|-------------|---------|---------|
| <b>Biopharma</b>   | 11 / 46% | 12 / 63% | 7 / 47%     | 3 / 25% | 8 / 73% |
| <b>Dx/Tools</b>    | 4 / 25%  | 2 / 11%  | 1 / 7%      | 2 / 17% | 2 / 18% |
| <b>Device</b>      | 6 / 17%  | 2 / 11%  | 3 / 20%     | 6 / 50% | 0 / 0%  |
| <b>HealthTech</b>  | 3 / 13%  | 3 / 16%  | 4 / 27%     | 2 / 15% | 2 / 17% |
| <b>Total Deals</b> | 24       | 19       | 15          | 13      | 12      |



# Venture-backed Public Healthcare Markets China



# China HC Markets Rebound Faster than Nasdaq HC & Europe HC

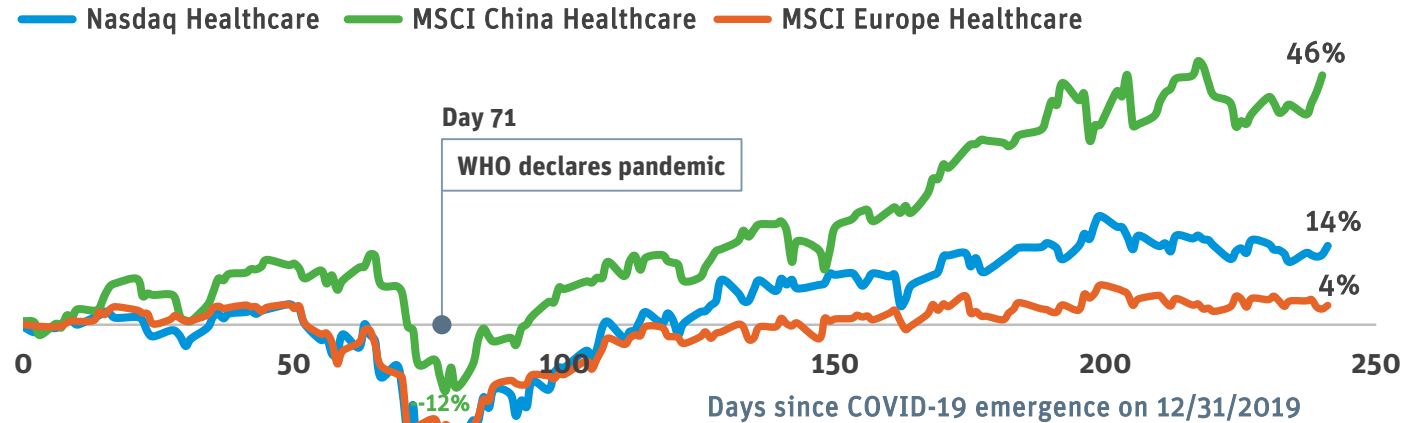
A) Within a week of the WHO declaring COVID-19 a pandemic, public markets worldwide tumbled. While Nasdaq and European mid/large cap healthcare indices decreased by -24%, China's showed more resilience (-12%).

B) S&P Biotech (small/mid cap), which is a proxy for late-stage private market performance, has historically outperformed general healthcare indices globally during the first half of the year. However, in 2020, the Shanghai and China healthcare indices have led the rest of the world, which can be attributed to China's ability to contain COVID-19 and reopen its economy faster than other countries.

C) Unlike the tech sector, which has seen a decline in IPOs in 2020, the healthcare sector has remained resilient with 63 VC-backed companies (\$12B+ total IPO proceeds raised) going public on their local exchanges and China exchanges accounting for 22 (35%) of them. Additionally, 2020 is now ahead of 2019, which saw 45 VC-backed companies raise an aggregated \$6.5B during the same period.

The biopharma sector still leads other sectors in IPO proceeds raised, accounting for 75% of the total proceeds in each country.

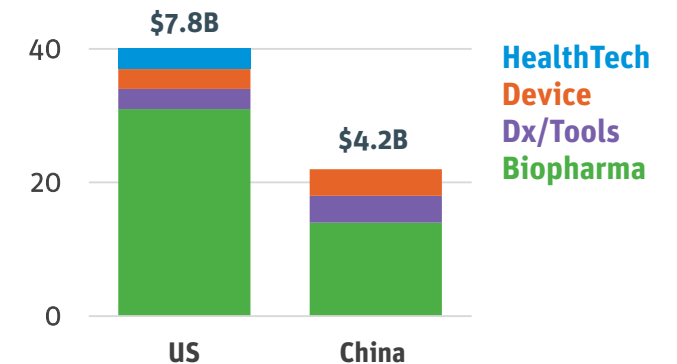
## A) Public Healthcare Index Performance China, Europe and United States



## B) Equity Market Performance

|                        | Avg. 1H Returns (2010-2019) | 1H 2020 | 2020 YTD |
|------------------------|-----------------------------|---------|----------|
| Shanghai Healthcare    | +2%                         | +35%    | +57%     |
| MSCI China Healthcare  | +6%                         | +32%    | +46%     |
| S&P Biotech ETF (XBI)  | +15%                        | +18%    | +17%     |
| Nasdaq Healthcare      | +9%                         | +12%    | +14%     |
| MSCI Europe Healthcare | +5%                         | +1%     | +4%      |

## C) 2020 VC-Backed HC IPOs Number of IPOs and IPO Proceeds





# Rise of VC-backed Healthcare IPOs with \$1B+ Market Caps

The last five years have seen a steady rise of venture-capital backed healthcare IPOs, with 59 current \$1B+ venture-backed public companies (roughly double the 30 unicorns observed at the end of 2019). Biopharma leads the cohort with 29 companies, followed by device and dx/tools — each tied at 14 companies — and finally healthtech with two companies.

Currently, the highest-valued venture-backed healthcare company is Shenzhen Mindray Bio-Medical Electronics (device), which IPO'd in 2018 on the Shenzhen Stock Exchange at \$7.03 per share and is now up 611% with a market cap of \$60B+. WuXi AppTec and WuXi Biologics, both biopharma companies, are next with respective market caps of \$37B and \$27B.

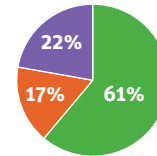
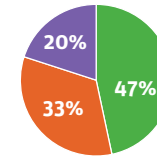
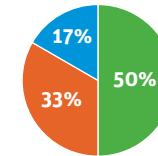
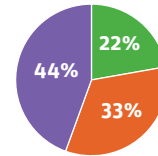
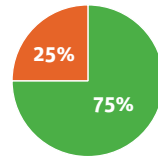
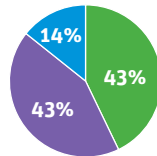
The COVID-19 pandemic has resulted in healthcare companies across the world repurposing their products or pivoting their business models to provide aid. We identified 19 of the 59 companies (32%) on this page aiding in the fight against COVID-19, with dx/tools leading over biopharma (9 vs. 7).

## \$1B+ VC-backed Public Companies by IPO Vintage: 59 Companies

Biopharma    Device    Dx/Tools    HealthTech

\*Aiding in the Fight Against COVID-19

| 2015<br>(7 IPOs) | 2016<br>(4 IPOs) | 2017<br>(9 IPOs) | 2018<br>(6 IPOs) | 2019<br>(15 IPOs) | 2020<br>(18 IPOs) |
|------------------|------------------|------------------|------------------|-------------------|-------------------|
|                  |                  |                  |                  |                   |                   |





## Local Exchanges Become Viable Options for Entrepreneurs

Mainland China and Hong Kong stock exchanges have been undergoing reform for the past couple of years, which has resulted in them becoming attractive options for private, venture-backed healthcare companies.

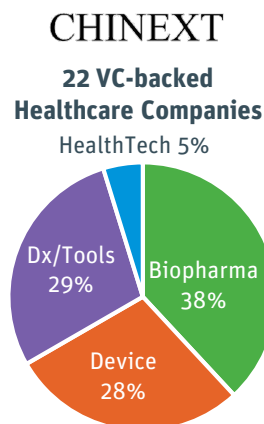
Since each exchange has undergone reform, there have been 61 venture-backed healthcare companies (47 have \$1B+ market caps as of 8/31/20) that have gone public on these markets. Biopharma is the dominant sector on all three exchanges, and it is interesting that the Shanghai Stock Exchange Science and Technology Innovation Board (STAR Market) has yet to see a healthtech company go public on it.

While companies that have gone public on either of these exchanges have a roughly similar time to exit (4–5 years), companies that have gone out on the Hong Kong Stock Exchange (HKEX) have historically been more valuable (1.3x higher pre-money at IPO) and raised 2.4x more with their IPOs than companies going public on the STAR Market.

In 2020, the best post-IPO performance belongs to Chengdu Kanghua (biopharma) with +725%. The company focuses on vaccine development and went public on the ChiNext Market, which is a subsidiary of the Shenzhen Stock Exchange.

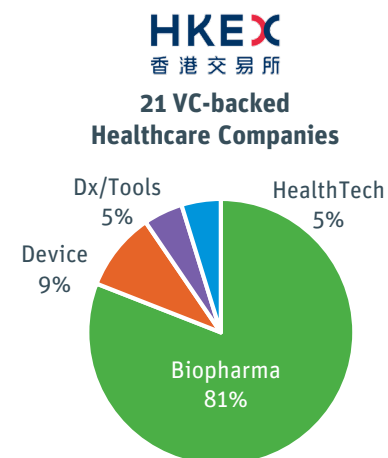
## Mainland China and Hong Kong Markets Focused on Innovative and Rapid Growth Enterprises

Biopharma    Device    Dx/Tools    HealthTech



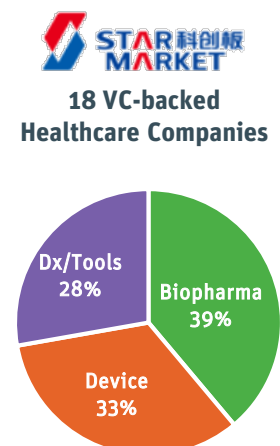
**Medians**

|                 |        |
|-----------------|--------|
| IPO Proceeds    | \$72M  |
| Pre-Money @ IPO | \$126M |
| Years to Exit   | 5.03   |



**Medians**

|                 |        |
|-----------------|--------|
| IPO Proceeds    | \$285M |
| Pre-Money @ IPO | \$888M |
| Years to Exit   | 3.90   |



**Medians**

|                 |        |
|-----------------|--------|
| IPO Proceeds    | \$120M |
| Pre-Money @ IPO | \$688M |
| Years to Exit   | 4.52   |

## Top Post-IPO Performance: IPO Vintage 2020

| Company       | SVB Sector | Exchange        | IPO Price (Date) | Price 8/31/20 | Price +/- | Market Cap 8/31/20 |
|---------------|------------|-----------------|------------------|---------------|-----------|--------------------|
| <b>KANGH</b>  | Biopharma  | CHINEXT         | \$9.87 (6/16/20) | \$81.40       | +725%     | \$4.9B             |
| <b>TINAVI</b> | Device     | STAR 科创板 MARKET | \$1.74 (7/7/20)  | \$9.46        | +444%     | \$3.9B             |
| <b>SANYOU</b> | Device     | STAR 科创板 MARKET | \$2.97 (4/9/20)  | \$9.15        | +208%     | \$1.8B             |
| <b>Zelgen</b> | Biopharma  | STAR 科创板 MARKET | \$4.75 (1/23/20) | \$14.25       | +200%     | \$3.4B             |

# China Healthcare Outlook: 2020 & Beyond

## Predictions for China's Venture-backed Healthcare Ecosystem

By the end of 2020, total healthcare venture-backed investments in China will surpass 2018's \$8.1B total raised, making it the best year yet, as biopharma continues to lead over the other three healthcare sectors in activity.

Government-led reforms, such as the 4+7 drug procurement program, will continue to accelerate innovation and cement China as a key contributor to the global healthcare innovation ecosystem.

China will continue to see mega/giga rounds (\$100M/\$1B+ financings), as its total treatable population is projected to become four times the size of the US in 2030. Shanghai and Beijing will establish their positions within the top five global cities for healthcare innovation, further becoming attractive hubs for foreign-trained talent.

The COVID-19 pandemic will cause valuations of US-based healthcare companies to decline in 2H 2020 and 1H 2021, which may result in an increase in cross-border activity within the US venture-backed healthcare ecosystem.

The recently reformed ChiNext Market, STAR Market and HKEX will result in local companies favoring these exchanges over the Nasdaq.

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# Glossary

## SVB Healthcare Sector Definitions

**Biopharma** defined as companies that are developing their own therapeutic assets; also includes companies developing new technology and discovery platforms pursuing clinical development of internal assets.

**Diagnostics (Dx)/Tools** defined as companies that advance novel life science research and discovery methods, develop unique diagnostic tests and/or create devices that aid in point-of-care diagnostics or treatment decisions.

**HealthTech** defined as companies that are developing tech-enabled products or services to improve patient outcomes and reduce costs.

**Devices** defined as companies that design and manufacture devices that assist in the monitoring, treatment, mitigation or prevention of a disease, disorder or abnormal physical state.

## Deal Descriptions

**Venture-backed** defined as any company that has at least one known venture capital investor within its private financing deal history and has raised a minimum of \$1M.

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

## Corporate Investor

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

## Geography Definitions

**Europe** defined as Belgium, Denmark, France, Germany, Italy, Luxembourg, Spain, Sweden, United Kingdom and Switzerland.

**China** defined as mainland China and Hong Kong, unless otherwise specified.

## 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.

**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, provider-patient interactions.

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

**Clinical Trial Enablement (CTE)** 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.

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Headquartered in Shanghai, China, SPD Silicon Valley Bank (SSVB) is a joint venture between Silicon Valley Bank and Shanghai Pudong Development Bank Co., Ltd. The first Sino-US joint venture bank, SSVB is the first technology and innovation bank in China serving innovation companies of all sizes strives to be the most sought-after bank for China's innovation economy.

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