

PitchBook Data, Inc.

Nizar Tarhuni Executive Vice President of Research and Market Intelligence

Paul Condra Head of Emerging Technology Research

Institutional Research Group

Analysis



Kazi Helal, Ph.D.
Senior Analyst, Biotech & Healthcare
kazi.helal@pitchbook.com



Aaron DeGagne, CFA
Senior Analyst, Healthcare
aaron.degagne@pitchbook.com

Data

Collin Anderson
Data Analyst

pbinstitutionalresearch@pitchbook.com

Publishing

Designed by **Mara Potter**

Published on December 16, 2024

INDUSTRY & TECHNOLOGY RESEARCH

2025 Healthcare & Life Sciences Outlook

Our analysts' outlook on the healthcare market in 2025

PitchBook is a Morningstar company providing the most comprehensive, most accurate, and hard-to-find data for professionals doing business in the private markets.

2025 outlooks

- p. 2 Healthcare & life sciences:** Healthcare & life sciences private markets will move toward concentrated deals and funds.
- p. 5 Healthcare & life sciences:** Healthcare will increase as a share of global PE deal counts, while VC share will hold steady.
- p. 7 Healthtech:** The aggregate number of healthtech unicorns will decline, driven by greater M&A and IPO activity.
- p. 9 Medtech:** At least two brain-computer interface startups will record \$100 million-plus VC rounds.
- p. 11 Pharmatech:** The global innovation landscape will be defined by regional specialization and collaborative ecosystems.
- p. 14 Biopharma:** Demand for strong clinical assets over platform technologies will continue.
- p. 17** Analyst Q&A

Kazi Helal, Ph.D.
Senior Analyst, Biotech & Healthcare
kazi.helal@pitchbook.com

HEALTHCARE & LIFE SCIENCES

Outlook: Healthcare & life sciences private markets will move toward concentrated deals and funds.

Rationale

In 2025, the healthcare & life sciences VC industry will be defined by fewer but larger deals and funds. Investors will increasingly focus on late-stage, capital-intensive opportunities with strong clinical validation and clearer paths to commercialization, consolidating resources into high-potential ventures. The shift toward concentration in healthcare & life sciences VC is the result of several intersecting historical trends, macroeconomic pressures, and industry dynamics, with the life sciences VC segment leading the way. Historically, life sciences VC investment has been characterized by a broad base of early-stage funding opportunities. However, over the past few years, this model has undergone a significant transformation.

During the COVID-19 pandemic, life sciences experienced an unprecedented surge in VC activity, driven by urgent global demand for diagnostics, vaccines, and treatments. Life sciences VC deal count as a share of total VC peaked at 8.2% in Q3 2020, while deal value surged to 17.7%. This represented a high-water mark, as the pandemic fueled investment in biopharma, medtech, and digital health. By Q3 2024, however, deal count declined to 5.6%, and deal value stabilized at 13%. This normalization reflects reduced urgency in pandemic-related investments and increased competition from other high-growth sectors such as AI and fintech.

In the broader healthcare context, life sciences accounted for 43.3% of healthcare VC deals at its peak in Q2 2020 before declining to 34.2% by Q3 2024. While deal count declined, life sciences maintained a consistently high share of deal value, stabilizing above 65%. This disparity highlights the capital-intensive nature of biotech and medtech investments, as these sectors require significant funding for advanced research, clinical trials, and manufacturing.

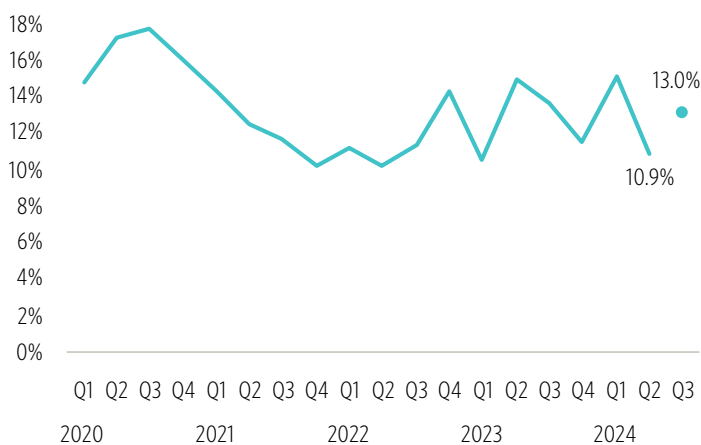
Macroeconomic pressures have further accelerated the trend toward fewer but larger deals. Rising interest rates and tighter credit markets have constrained the availability of VC, prompting investors to prioritize de-risked opportunities. Fundraising activity reflects this shift: Life sciences VC fund count dropped from 135 in 2021 to just 22 in 2024, while capital raised declined from \$30.8 billion to \$11.7 billion over the same period. Similarly, healthcare PE fundraising saw a drop in fund count from 49 in 2021 to 13 in 2024, with capital raised falling from \$17.0 billion to \$10.7 billion. These declines indicate increased investor selectivity, as capital consolidates into larger, well-capitalized funds targeting late-stage opportunities, with a massive focus on pharma services.

The increasing costs of biotech innovation further reinforce this trend. Developing and commercializing new therapies requires significant capital investment, driven by lengthy research & development timelines, regulatory complexities, and manufacturing challenges. Investors are gravitating toward late-stage

companies with strong clinical validation, scalable technologies, and a clear path to monetization through licensing or acquisitions. This shift is particularly evident in the rise of average deal sizes, which have increased as funding concentrates on fewer, high-impact opportunities.

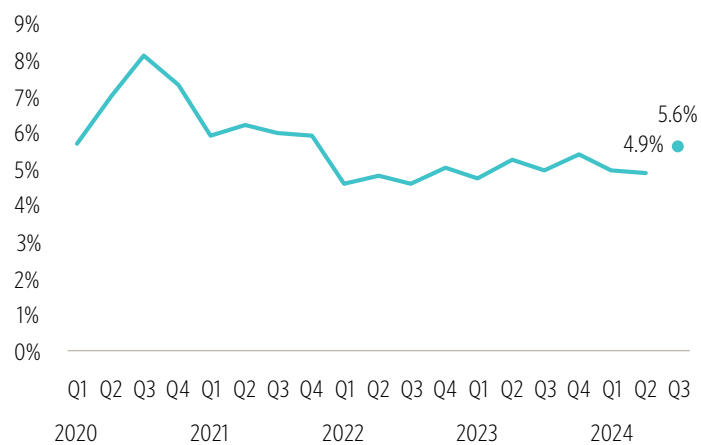
Despite these challenges, healthcare & life sciences remain a resilient and attractive sector for VC and PE investors, driven by demographic shifts, technological advancements, and the growing need for innovative therapies. Investments in areas such as AI-driven drug discovery, precision medicine, and digital health are likely to dominate, further concentrating activity in the sector.

Life sciences VC deals as a share of all VC deal value



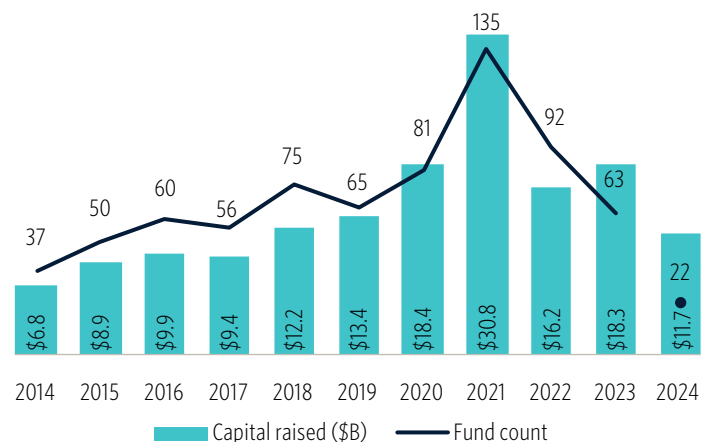
Source: PitchBook • Geography: Global • As of September 30, 2024

Life sciences VC deals as a share of all VC deal count



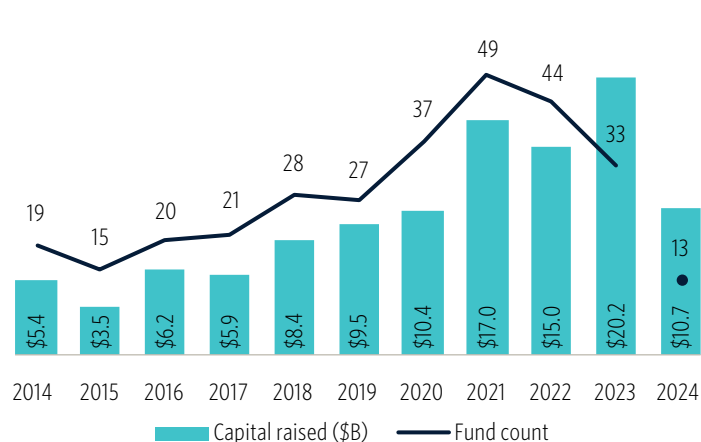
Source: PitchBook • Geography: Global • As of September 30, 2024

Life sciences VC fundraising activity



Source: PitchBook • Geography: Global • As of September 30, 2024

Healthcare PE fundraising activity



Source: PitchBook • Geography: Global • As of September 30, 2024

Risks

While the trend toward larger, later-stage deals and funds might appear logical, several factors could undermine this prediction for 2025. A rebound in macroeconomic conditions could revive interest in early-stage ventures, countering the current push toward consolidation. Unexpected scientific breakthroughs or emerging technologies—especially in AI-driven drug discovery or obesity treatments—could shift capital back into the early pipeline. Regulatory changes that simplify clinical development might further encourage smaller bets. If late-stage investments fail to deliver returns, the industry might revert to nurturing preclinical and Phase 1 projects. Ultimately, renewed interest in earlier ventures could restore a more balanced, innovation-driven, and growth-oriented funding environment.

Aaron DeGagne, CFA
Senior Analyst, Healthcare
aaron.degagne@pitchbook.com

HEALTHCARE & LIFE SCIENCES

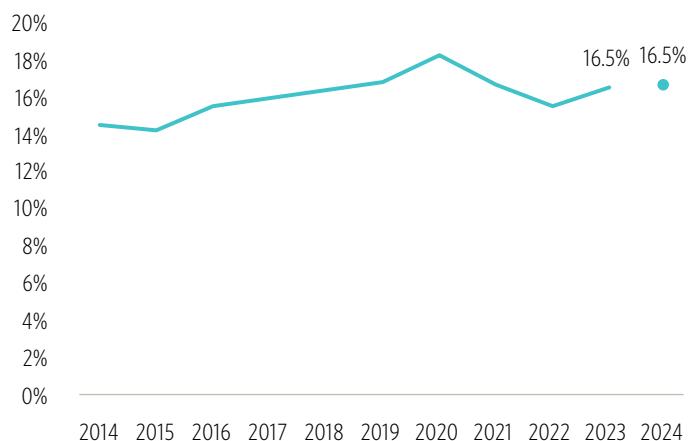
Outlook: Healthcare will increase as a share of global PE deal counts, while VC share will hold steady.

Rationale

In 2023, healthcare's share of global PE deal activity hit a decade-low of 9.4% due to challenges ranging from high labor costs to elevated interest rates. In 2024, however, the sector has shown modest recovery, accounting for 9.9% of global PE transactions as of the third quarter. We predict that healthcare's share of PE deal activity will rise further in 2025, though it is unlikely to approach the high of 11.5% from 2018. In healthcare services, we have continued to see strong PE deal activity in the medspa, outpatient mental health, and infusion submarkets, and pharma services PE deal activity has also meaningfully accelerated. A few drivers underlining our prediction for rising healthcare share of PE deal flow are steady and declining interest rates, reduced impact from labor cost inflation, and an incoming US administration likely to be more friendly to PE in healthcare.

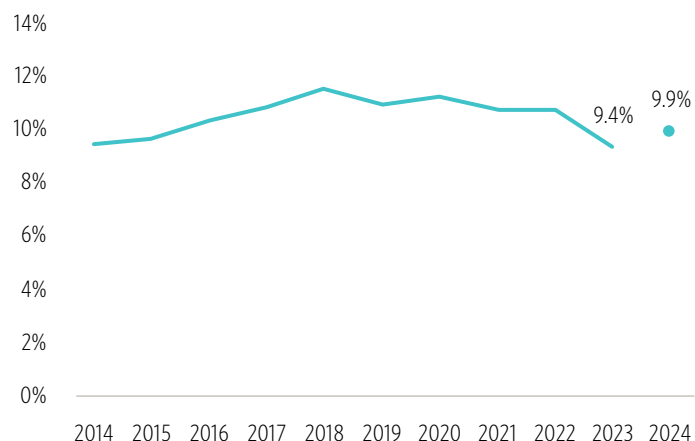
In VC, we expect healthcare's share of global VC deal count to stay about the same; healthcare's share was 16.5% in both 2023 and 2024 YTD. Over the past decade, healthcare's share of VC deal activity has averaged 16.1%, though this figure is brought up by the 18.2% from 2020—driven by one-time COVID-19-pandemic-era market dynamics that are unlikely to be repeated. There is a meaningful number of healthcare startups that last priced in a very different market environment, and venture capitalists may be reluctant to plough more capital into the sector before achieving return on investment from previous deals. Over the past two years, there has been a dearth of VC capital being recycled from M&A and IPO-driven exits, and there may need to be a meaningful pickup in exit activity to justify additional VC allocation to healthcare. Despite a continued tough funding environment in various pockets of VC-backed healthcare, including healthtech and early-stage life sciences, thematic areas such as metabolic health (weight loss) and AI continue to power VC investment in the sector. Still, buoyant public markets, signs of life for the IPO landscape, and AI-driven investment should mostly offset healthcare's VC headwinds, leading to our prediction of no change—plus or minus a few basis points—to healthcare's share of global VC funding in 2025.

Healthcare VC deals as a share of all VC deal count



Source: PitchBook • Geography: Global • As of September 30, 2024

Healthcare PE deals as a share of all PE deal count (excluding add-ons)



Source: PitchBook • Geography: Global • As of September 30, 2024

Risks

The post-pandemic healthcare sector presents distinct challenges for VC and PE investors. The industry continues to face point-solution fatigue, where narrowly focused innovations struggle to sustain investor interest. Industry consolidation has created high barriers to entry, with few new private companies successfully competing against established leaders. In well-funded areas like weight loss drugs, incumbents leverage significant capital advantages to maintain their dominance. Additionally, healthcare PE has faced increasing scrutiny from state and federal authorities, while the underwhelming performance of post-IPO healthtech startups poses a challenge for exit opportunities of VC- and PE-backed firms. These dynamics, coupled with declining interest rates, may prompt investors to shift focus to other sectors such as AI, IT, and real estate, which could capture a larger share of capital in the coming year.

2024 outlook

Healthcare will decrease as a share of both PE and VC global deal count.

Outcome

In contrast to our prediction heading into 2024 of a decline, healthcare increased as a share of global PE deal activity in 2024, rising to 9.9% from 9.4% the year prior. Buyers and sellers became more optimistic and active in the second half of the year as interest rates and the cost of debt started to descend, and sellers looked to PE buyers to fill the gap left by still-low levels of M&A and public listings. On the VC front, healthcare's share of global VC deal flow held steady at 16.5%, about in line with historical norms. There was little change to healthcare's share of global activity, as venture funding in the sector has now settled into a new normal after reaching a new high during the pandemic-fueled VC boom in 2020.

Aaron DeGagne, CFA
Senior Analyst, Healthcare
aaron.degagne@pitchbook.com

HEALTHTECH

Outlook: The aggregate number of healthtech unicorns will decline, driven by greater M&A and IPO activity.

Rationale

The number of digital health unicorns has held steady at 48 since early 2023, but we expect this to change in 2025 from late-stage startups exiting via both M&A and IPOs. After years of rapid funding and growth, many sector startups have reached maturity, positioning them as attractive targets for strategic buyers or ready candidates for public markets. Consolidation trends in digital health should also drive meaningful M&A activity—we see the digital health subsegments of chronic disease management, digital therapeutics, and personal care management as especially ripe for M&A transactions over the year ahead.

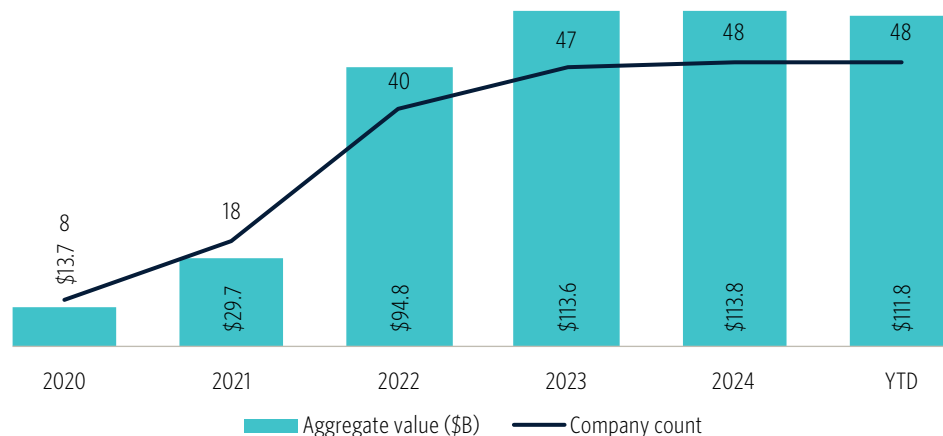
At the same time, the IPO pipeline is growing as macroeconomic conditions stabilize and investor sentiment toward digital health improves. Our preliminary data shows that Q3 was the strongest year for funding in digital health since early 2022. Several companies with proven revenue models and scalable platforms—particularly in behavioral health, specialty telehealth, musculoskeletal, and chronic condition management—are poised to go public in the medium term. For example, chronic disease platform Omada Health confidentially filed an S-1 earlier this year,¹ and Hinge Health is rumored to have hired bankers in anticipation of filing an S-1 soon.² Across digital health, our VC Exit Predictor scoring also assigns high IPO probabilities (above 90%) to other notable digital health startups including Oura, Zocdoc, Ro, Headway, and Spring Health. On the other hand, it is possible that rising levels of funding could marginally increase the number of digital health unicorns, but we would bet on exits outpacing new unicorn growth in 2025, considering the robust pipeline of near-IPO-ready startups and the relatively difficult funding market for digital health broadly.

Even a small number of IPOs, in combination with some consolidation, could shrink the pool of VC-backed unicorns in the year ahead, especially as VCs push portfolio companies toward exit opportunities in an effort to capture returns after years of substantial capital deployment. We would also expect a handful of late-stage digital health startups to experience closure events in 2025 as these companies near the end of their cash runways and fail to receive follow-on investment. News that primary care startup Forward shut down is one example of a recent “fallen unicorn,” as the startup had raised over \$500 million and was previously valued at \$1.3 billion when the company raised Series E funding in November 2023.

¹: “Exclusive: Diabetes Startup Omada Health Has Confidentially Filed Its S-1 To Go Public,” *Business Insider*, Rebecca Torrence and Ben Bergman, October 2, 2024.

²: “Exclusive: Physical Therapy Startup Hinge Health Hires Morgan Stanley as It Prepares to Confidentially File Its S-1,” *Business Insider*, Rebecca Torrence, September 26, 2024.

Aggregate digital health VC unicorn value and count



Source: PitchBook • Geography: Global • As of September 30, 2024
 Note: Annual figures are as of January 1. YTD data is as of September 30, 2024.

Risks

Still-high interest rates, some residual uncertainty on inflation, and an ongoing trend of startup companies staying private for longer are all factors that could limit exit activity in 2025. The number of public listings has been below expectations dating back to 2022, and there are few specific events that we could point to in the near term that would drive increased exit activity. And in the US, there is additional uncertainty around the healthcare policy of the incoming Trump administration, which could provide a cooling effect for startups seeking to go public in early 2025.

2024 outlook

At least three digital health startups will go public in 2024.

Outcome

We had anticipated the digital health IPO window to disappoint market participants in 2024, and while this thesis bore out, the number of public listings fell short of even our lower expectations. Across all of consumer digital health, only Guangzhou-based chronic disease platform Ark Jianke Group successfully exited via IPO—the company now trades at a valuation of about \$1 billion on the Hong Kong Stock Exchange. A slower-than-expected pace of interest rate cuts, startups’ preferences for private market funding over public capital, and memories of difficult post-IPO performance from public listings in recent years were all factors contributing to the sluggish IPO market in 2024.

Aaron DeGagne, CFA
 Senior Analyst, Healthcare
 aaron.degagne@pitchbook.com

MEDTECH

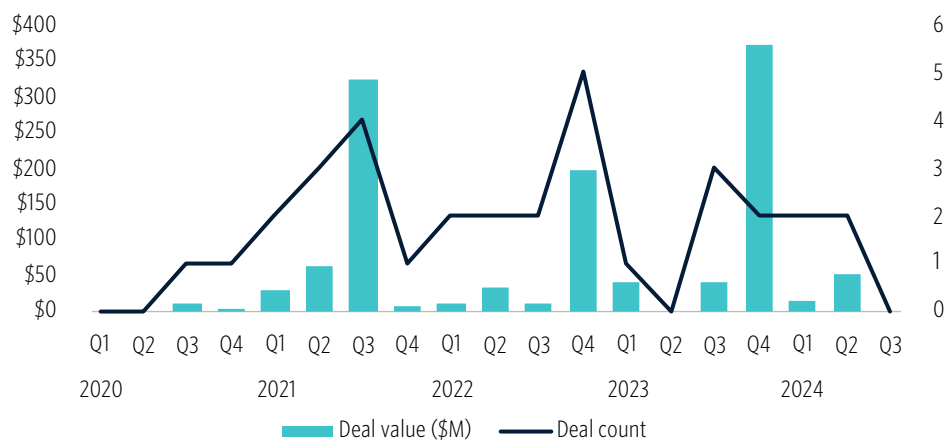
Outlook: At least two brain-computer interface startups will record \$100 million-plus VC rounds.

Rationale

Innovation in brain-computer interfaces (BCIs) has been advancing rapidly, and 2024 saw one of the first major exits in the category with Tether's \$200 million deal to acquire a majority stake of Blackrock Neurotech—a surprising transaction considering Tether's cryptocurrency focus. In 2025, we expect to see two or more startups in the space raise additional VC funding above the \$100 million threshold. Leading companies like Neuralink and Synchron have raised substantial funding in previous years and are approaching pivotal stages in their lifecycle with ongoing clinical trials and laying the groundwork for product commercialization. Neuralink's last two VC rounds were well above the \$100 million mark, as the startup raised \$205.9 million in July 2021 and a \$323.2 million Series D in November 2023. Following the two-year pattern for fundraising, it stands to reason that the startup could look to raise another VC round in 2025.

Having raised significantly fewer dollars to date, Synchron has still been able to make progress on its development efforts, and the company recently announced positive preliminary results from its six-patient COMMAND study in September 2024.³ Synchron last raised \$75 million in December 2022, and given it has been about two years since this last round, the startup appears due to raise additional funding within 2025. Beyond the efforts of the leading startup companies, there are also other market dynamics at play that, in our view, increase the likelihood investors will remain interested in funding emerging BCI technologies. Programs like the Neural Engineering System Design from the Defense Advanced Research Projects Agency have accelerated BCI development, and Big Tech companies including Meta, Alphabet, and Apple are exploring BCI for integration with their augmented reality (AR) and virtual reality ecosystems.

BCI VC deal activity by quarter



Source: PitchBook • Geography: Global • As of September 30, 2024

3: "Synchron Announces Positive Results From U.S. COMMAND Study of Endovascular Brain-Computer Interface," Business Wire, September 30, 2024.

Risks

This prediction is highly reliant on the fundraising ambitions of leading VC-backed startups, namely Neuralink and Synchron. If either can extend their cash runways into 2026, then they may not have a need for additional funding in 2025. And it is also within the realm of possibility that one or both could look to exit by IPO in 2025. If a public listing does occur, while this may technically count as a funding event, it would not be an exact match to our prediction. On this point, PitchBook's Exit Predictor assigns Neuralink and Synchron with IPO probability scores of 94% and 42%, respectively.

2024 outlook

Surgical robotics will continue to be a leading VC category—surpassing 2023 funding levels.

Outcome

As of the end of 2024's third quarter, the surgical robotics category is not currently on pace to exceed 2023 funding levels. While the category has seen a decent level of funding YTD at over \$360 million, the sector has not repeated as a leading investment theme in medtech this year. Quarterly funding can be choppy, and given that long-term dynamics remain strong, we do not have serious concerns about the health of the category from an investment perspective. In fact, in Q3 there were several positive developments in the space, with CMR Surgical and Moon Surgical receiving US Food and Drug Administration (FDA) clearances for their Versius and Maestro systems, respectively, and PROCEPT BioRobotics securing FDA approval to begin a pivotal trial for prostate cancer. Over the past year, startups in the space have been primarily focusing on building and scaling their companies versus fundraising; though going forward, they will eventually need additional VC dollars as funding milestones are met.

Kazi Helal, Ph.D.
Senior Analyst, Biotech & Healthcare
kazi.helal@pitchbook.com

PHARMATECH

Outlook: The global innovation landscape will be defined by regional specialization and collaborative ecosystems.

Rationale

The biotech and pharma innovation landscape will increasingly be characterized by regional specialization, driving both collaborative opportunities and growing funding gaps for companies that do not align with regional strengths. North America will lead in advanced biologics and AI-driven drug discovery; Europe will focus on sustainable manufacturing and rare diseases; Asia will emphasize generics and biologics manufacturing; while emerging markets prioritize vaccines and digital health. The global pharma industry is increasingly shaped by regional specialization, driven by VC trends that align funding with regional strengths. As a result, companies that do not fit into these emerging specialties are facing greater challenges in accessing capital. This evolution reflects a strategic focus among investors to maximize value by targeting areas where specific regions hold a competitive advantage. However, it also leads to widening funding gaps for those that do not align with these specialized strengths.

Historically, North America, particularly the US, has been the epicenter of VC investment in pharma—biopharma and pharmatech verticals—accounting for over 60% of global deal value since 2020, with its share climbing to 70.8% in 2024. This continued dominance is supported by an ecosystem characterized by cutting-edge academic research, robust National Institutes of Health funding, and strong industry-academia collaborations. The region's focus on AI-driven drug discovery, mRNA technology, and targeted oncology has propelled its innovation capabilities. Policies like the Inflation Reduction Act have further incentivized accelerated development for high-priority therapeutic areas, establishing North America as the leader in early-stage biopharma innovation.

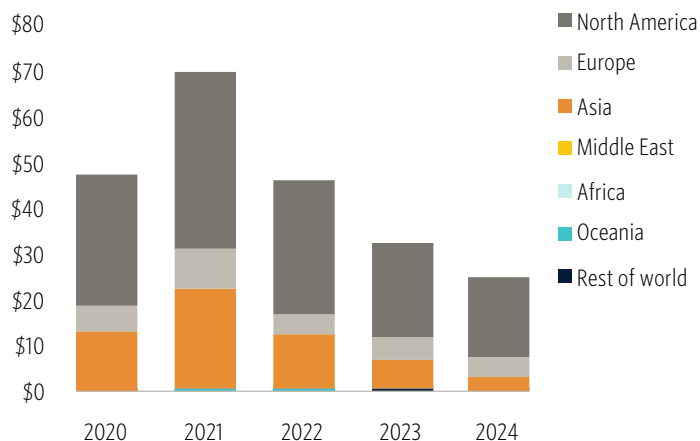
Europe's pharma VC share reached 18.1% of global deal value in 2024, driven by a growing emphasis on sustainable biomanufacturing practices and policy-driven innovation. Initiatives such as Horizon Europe and the EU Pharmaceutical Strategy have paved the way for advancements in rare diseases and antimicrobial resistance. Moreover, Europe has positioned itself as a leader in sustainability through the adoption of automation and digital twins technologies in biomanufacturing, driving efficiency while addressing environmental concerns. However, the fragmented regulatory landscape has necessitated increased cross-border collaboration, with partnerships among Germany, Switzerland, and the UK proving critical in enhancing competitiveness across clinical trials and biologics manufacturing.

The Asia region, while seeing its VC funding share decline to 10.3% in 2024, remains indispensable to the biopharma supply chain. Asia's strategic role has shifted toward being the global hub for active pharmaceutical ingredient production, generics, and biosimilars. India, for instance, has leveraged its generics expertise to venture into more complex biologics, such as antibody-drug conjugates, while

accelerated regulatory approvals in China and Japan have spurred innovation, particularly in oncology and regenerative medicine. Despite the dip in VC inflows, Asia’s focus on scaling manufacturing capabilities and maintaining a cost-competitive edge ensures its relevance within the global ecosystem.

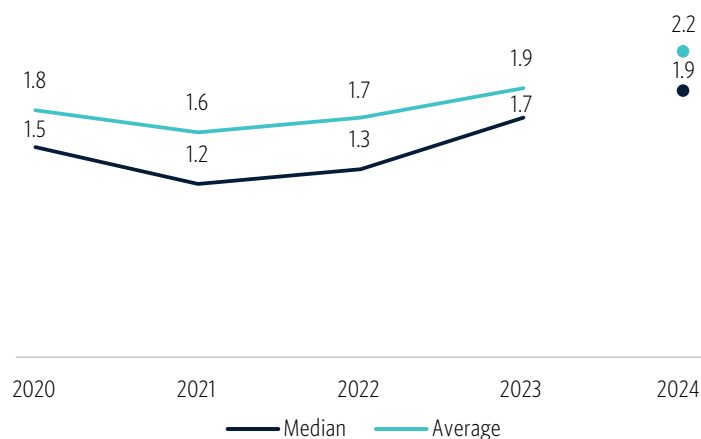
These trends reveal a distinct shift toward regional specialization, creating a more interconnected yet segmented global pharma landscape. However, this evolution brings challenges, such as potential funding disparities for companies that do not align with regional strengths. The increasing gap between funding rounds, observed particularly in 2024, signals a tightening capital environment for those not operating within the most in-demand specialties. Companies that do not fit into a region’s specialization are finding it difficult to secure funding, resulting in a longer wait between financing rounds and potential challenges in maintaining growth momentum.

Pharma VC deal value (\$B) by region



Source: PitchBook • Geography: Global • As of September 30, 2024

Median and average time (years) since last biopharma VC round



Source: PitchBook • Geography: Global • As of September 30, 2024

Risks

While regional specialization presents a compelling narrative, several factors could undermine this neat segmentation. Economic or regulatory shifts could disrupt existing regional advantages, encouraging investors to return to more diversified portfolios rather than anchoring to specific hubs. A breakthrough therapy or technology emerging from a nonspecialized region could attract substantial global attention and funding, destabilizing current patterns. Moreover, ongoing geopolitical tensions, supply chain vulnerabilities, and unexpected pandemics may force investors to prioritize flexibility and resilience over specialization, potentially reversing the trend and narrowing the very funding gaps this model was thought to widen. In such scenarios, the anticipated alignment of regional strengths might fracture, making the innovation landscape less predictable and more broadly distributed than this outlook suggests.

2024 outlook

The interval between funding rounds for biopharma companies will lengthen from the baseline set in 2021 by several months.

Outcome

This prediction proved accurate. In 2024, the average time between funding rounds extended from 1.6 years in 2021 to 2.2 years, reflecting a more challenging environment for securing timely follow-on capital. Tighter credit conditions and heightened investor selectivity disproportionately affected smaller early-stage ventures. Concurrently, a shift toward regional specialization, with investors favoring established hubs supported by robust talent pools, further widened funding gaps. As a result, “winners” within each region attracted greater investment, while companies operating outside these focal areas struggled to maintain growth and advance their pipelines.

Kazi Helal, Ph.D.
Senior Analyst, Biotech & Healthcare
kazi.helal@pitchbook.com

BIOPHARMA

Outlook: Demand for strong clinical assets over platform technologies will continue.

Rationale

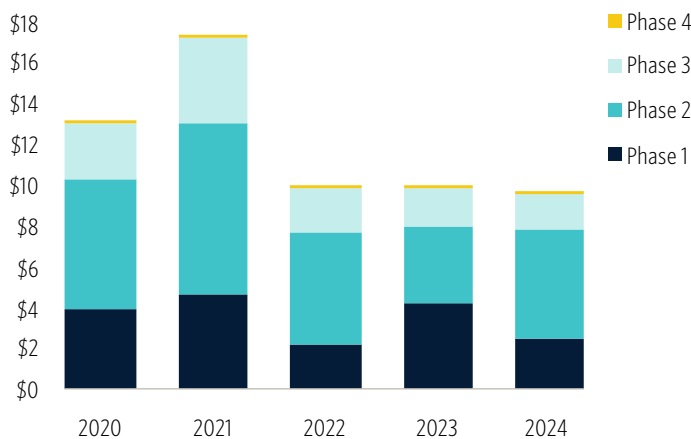
In 2025, increased demand for clinical data will continue to drive VC investments toward biopharma companies advancing to mid- and late-stage clinical trials, with obesity and GLP-1 drugs leading the way. The growing importance of robust clinical data in VC investment decisions reflects broader changes in market dynamics, investor priorities, and regulatory expectations. In 2025, venture capitalists are expected to prioritize companies advancing to Phase 2 and beyond. These stages of development offer greater clarity on efficacy, safety, and commercial potential, making them attractive targets for risk-adjusted investments.

Historically, the clinical trial stage has played a significant role in determining the size and frequency of biopharma VC investments. From 2020 to 2024, Phase 2 companies consistently captured the highest deal sizes due to the combination of innovation and clinical validation they represent, except in 2023, when obesity deals boosted Phase 1 companies' total deal size. While the biotech market faced economic tightening during the 2022-2023 downturn, Phase 2 investments demonstrated resilience, rebounding to \$5.2 billion in 2024. This trend highlights the growing reliance on proof-of-concept data to de-risk investments and enhance valuations. Phase 3 assets, on the other hand, saw declining investment levels, dropping from \$4.2 billion in 2021 to \$1.7 billion in 2024. This decline is attributed to the financial and operational complexities of late-stage trials, underscoring the importance of strong Phase 2 data to attract partnerships or licensing agreements with Big Pharma.

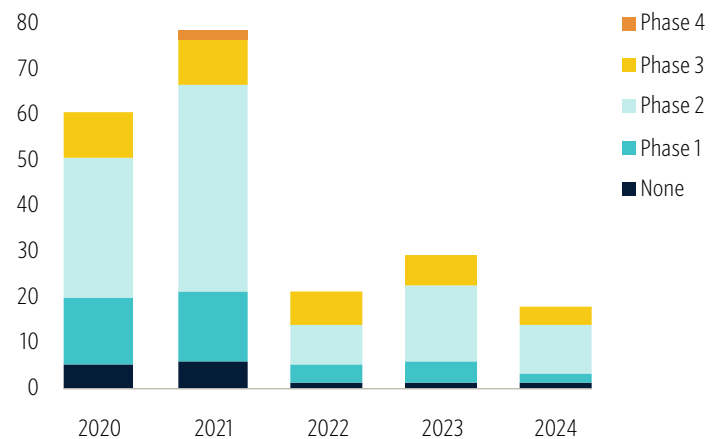
Market corrections over the past few years have amplified the emphasis on risk mitigation, steering VC focus away from early-stage assets with limited clinical validation. High failure rates and extended time horizons associated with preclinical and Phase 1 assets have made these investments less attractive. Instead, mid-stage companies, particularly those in Phase 2, have become a focal point. Phase 2 serves as a pivotal inflection point where efficacy and safety data significantly enhance the likelihood of regulatory and commercial success, driving higher valuations and stronger investor interest.

Obesity/GLP-1 drugs and AI platforms, however, have emerged as notable exceptions to this trend. The market's reaction to the blockbuster sales of Eli Lilly's and Novo Nordisk's products has fueled a wave of investor enthusiasm. The GLP-1 drug category, characterized by its copycat nature and reduced clinical complexity compared with novel therapeutic areas, has required less extensive clinical data to instill confidence among venture capitalists. In contrast, while AI platforms have attracted large early-stage investments with concentrated bets without clinical data in companies like Xaira and Generate:Biomedicines, the leading public companies in this space are struggling to demonstrate strong clinical validation of their approaches.

Economic factors further justify this focus on clinical data. Rising interest rates and tighter capital markets have made access to funding more challenging, compelling venture capitalists to prioritize assets with clearer paths to monetization or Big Pharma acquisition. Companies advancing through mid-stage trials are better positioned to secure licensing deals or acquisitions, offering returns that align with investor expectations in a constrained economic environment. These dynamics suggest that clinical validation will remain a cornerstone of biopharma VC strategy through 2025.

Biopharma VC deal value (\$B) by highest phase


Source: PitchBook • Geography: Global • As of September 30, 2024
 Note: Determined as the highest phase of a trial that started prior to the round closing.
 Data combines trials between phases to the highest phase.

Biopharma VC IPO count by highest phase


Source: PitchBook • Geography: Global • As of September 30, 2024
 Note: Determined as the highest phase of a trial that started prior to the round closing.
 Data combines trials between phases to the highest phase.

Risks

While the emphasis on late-stage clinical data appears justified, several factors could undermine this trend. Emerging platform technologies—especially those harnessing generative AI—may rapidly mature and produce compelling preclinical results that challenge the notion that robust clinical data is the sole determinant of value. Regulatory environments could evolve, providing faster approval pathways or adaptive trial designs that benefit platform-based models. Additionally, unforeseen scientific breakthroughs, unexpected positive outcomes from early-stage assets, or a surge in strategic partnerships between Big Pharma and platform companies might shift investor sentiment back toward earlier innovation. In such scenarios, a few large, exceptionally well-funded early-stage platform startups—such as Xaira and Metsera—could attract massive deal sizes that, while small in count, significantly influence aggregate market values. This would prompt investors to recognize the untapped long-term growth potential inherent in flexible, scalable platform technologies, ultimately weakening the prevailing demand for strong clinical assets as the only clear path to returns.

2024 outlook

- Biopharma startups will require more robust clinical validation, such as successful completion of Phase 2 trials, prior to pursuing IPOs, reflecting a shift from trends observed in 2021.
- Despite challenges in public markets and limited exit opportunities, AI-driven biotech startups will maintain robust growth and high valuations in their early stages.





Outcome

The predictions proved accurate. In 2024, more startups entering IPOs presented data from Phase 2 and Phase 3 trials, underscoring the industry's shift toward stronger clinical validation before going public. This emphasis on advanced-stage results helped attract partnerships with Big Pharma and reassured VC investors looking to de-risk their portfolios. The deal landscape adjusted accordingly, with IPO and M&A activity increasingly tied to positive late-stage clinical data.





Meanwhile, early-stage AI-driven biotech companies, particularly those applying generative AI approaches to biologics, maintained high valuations. While still early in their lifecycles, these ventures captured significant investor interest and capital, reflecting sustained confidence in their long-term potential, even amid a challenging public market environment.

Analyst Q&A





Which subsegment of your coverage is the most underappreciated by investors?

Medtech	Digital health	Biopharma	Pharmatech
 <p>Vision tech is underappreciated, as there is scope for multiple areas of innovation in eye care including disease screening, contact lenses, and cataract surgery.</p>	 <p>Brain health and mental strength is underappreciated—there is a growing need for platforms to screen and manage neurological conditions.</p>	 <p>Oncolytic viruses lack innovation despite successful drugs and large IPOs like CG Oncology.</p>	 <p>Lab-in-a-box automation: Post-Theranos, tech-enabled contract resource organization (CRO)/health services are seen as high-risk bets.</p>





Which incumbent/legacy providers face the most risk of disruption?

Medtech	Digital health	Biopharma	Pharmatech
 <p>Intuitive Surgical faces disruption risk, as contenders are emerging to challenge Intuitive's near-monopoly in soft-tissue robotics.</p>	 <p>Teladoc Health faces disruption from a crowded telehealth market and heavy reliance on marketing to drive revenue in its cash-pay BetterHelp platform.</p>	 <p>Traditional drug developers face AI-driven startups partnering with Big Pharma for rapid advancements.</p>	 <p>China-based outsourcing services: The US BIOSECURE Act threatens their role in US pharma contracting.</p>





In your space, which seed-stage startups should Series A investors pay attention to?

Medtech	Digital health	Biopharma	Pharmatech
 <p>Cognixion: developing BCI tech for communication disabilities.</p> <p>Lazarus 3D: inventive 3D-printing approach for pre-operative surgical training.</p>	 <p>Miga: strong vision to build out a comprehensive consumer-facing heart health platform.</p> <p>Stethophone: novel technology to enable using a smartphone as a medical stethoscope.</p>	 <p>Incisive Genetics: CRISPR-focused, enabling novel gene-editing targets with full protein delivery.</p> <p>Omios Bio: Innovating novel oncolytic virus tech for immunotherapy to unlock new targets.</p>	 <p>SiGenex: Lab-in-a-box automation for scalable genetic testing as a tech-enabled service.</p> <p>Novelna: Early-detection liquid biopsy focused on using proteomics, enabling new insights beyond previous genomics/methylation efforts.</p>

Which Series A companies should Series B and C investors pay attention to?

Medtech	Digital health	Biopharma	Pharmatech
 <p>Alimetry: creating a new diagnostic category in body surface gastric mapping for GI.</p> <p>Prenuvo: a startup to watch in the fast-growing whole-body scanning market.</p>	 <p>Stroll: innovative AR approach to neuro-rehabilitation.</p> <p>Jasper: early player in emerging cancer care support category.</p>	 <p>Faeth Therapeutics: Modulates nutrition to enhance drug efficacy and enable new treatments.</p> <p>Excision BioTherapeutics: Gene-editing solutions targeting infectious diseases.</p>	 <p>Foresight Diagnostics: Shifting liquid biopsy focus to pharma services beyond early cancer detection.</p>

If you were to select only three subsectors (in no particular order) from your coverage to invest in, which subsectors would you choose?

Medtech	Digital health	Biopharma	Pharmatech
 <ul style="list-style-type: none"> Cardiovascular Surgical robotics Cancer diagnostics 	 <ul style="list-style-type: none"> Teletherapy & behavioral health Care & benefits navigation Nutrition and weight loss 	 <ul style="list-style-type: none"> Obesity-focused therapeutics Oncolytic viruses Novel cell therapy technologies (B-Cell, next gen CAR-T) 	 <ul style="list-style-type: none"> Automation tech-enabled CRO services Digital twins AI for synthetic data in biologics development Biosimilars CDMO and CMO services in emerging markets