



Sector Snapshot

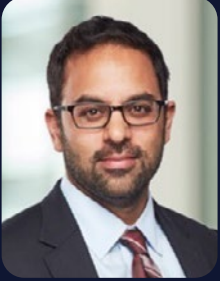
Key Trends in Dealmaking

Emerging Healthcare & Life Sciences

Data provided by



Commercial Bank



I have the privilege to introduce the 2024 Citi Commercial Bank Sector Snapshot Report on Emerging Healthcare & Life Sciences.

Rich with data taken from PitchBook, the report takes a closer look at emerging frontiers in healthcare with a focus on biotech digitalization, AI, telemedicine, fitness and wearable tech, and assesses market conditions, industry shifts, and key trends in investment.

This raises a number of interesting questions: Can venture financing in healthcare and life sciences remain resilient despite economic volatility? Will investment remain focused on healthtech, biotech, and advances in hardware and software? And will the future see an increase in the estimated \$9.8 trillion global healthcare spend in 2021?

These are some of the areas covered in the report which delivers valuable insights and will unlock opportunities.

Nauman Ansari

Global Healthcare Sector Head
Citi Commercial Bank

Introduction

The emerging frontiers of healthcare are diverse, but primarily lie at the nexus of biotech, digitalization, AI, infrastructure, telemedicine, and subtly improving devices, with considerable overlap between those segments. Such innovations are in avid demand due to the sheer size and needs of the global healthcare market as regulatory shifts increase in complexity and demographics age – the World Health Organization estimated global healthcare spending at \$9.8 trillion, or over 10% of global gross domestic product in 2021¹. In one nation’s example, meanwhile, half of US adults say it is difficult to cover healthcare costs²; yet due to economic conditions, medtech

and life sciences executives polled are still touting innovation investment as important, yet not quite as much as in the past. As a result, venture financing activity spanning emerging healthcare subsegments remained somewhat resilient in 2023, but not totally immune to the volatility in financial markets that has taken a toll on private market dealmaking over the past few years. Quarterly data reveals that 2023 tallies saw an evening out of financing volume at historically healthy if not record levels. However, after 91 emerging healthcare unicorns were minted in 2021, such profuse funding has fallen swiftly as economic and market concerns have heightened since.

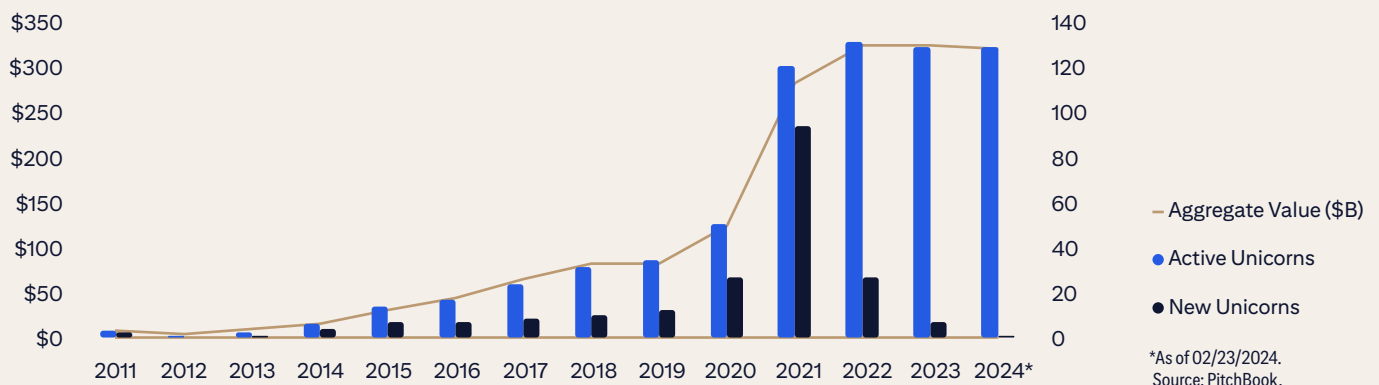
Even emerging healthcare’s *strong macro drivers* face market volatility headwinds

Global VC deal activity – Emerging Healthcare & Life Sciences



Even as the venture market moderates, aggregate unicorn valuations hit a peak

Global unicorn aggregate flow (\$B) – Emerging Healthcare & Life Sciences



¹ “WHO Calls on Governments for Urgent Action to Invest in Universal Health Coverage,” World Health Organization, December 11, 2023.

² “Americans’ Challenges With Health Care Costs,” KFF, Lunna Lopes, et al., March 1, 2024.

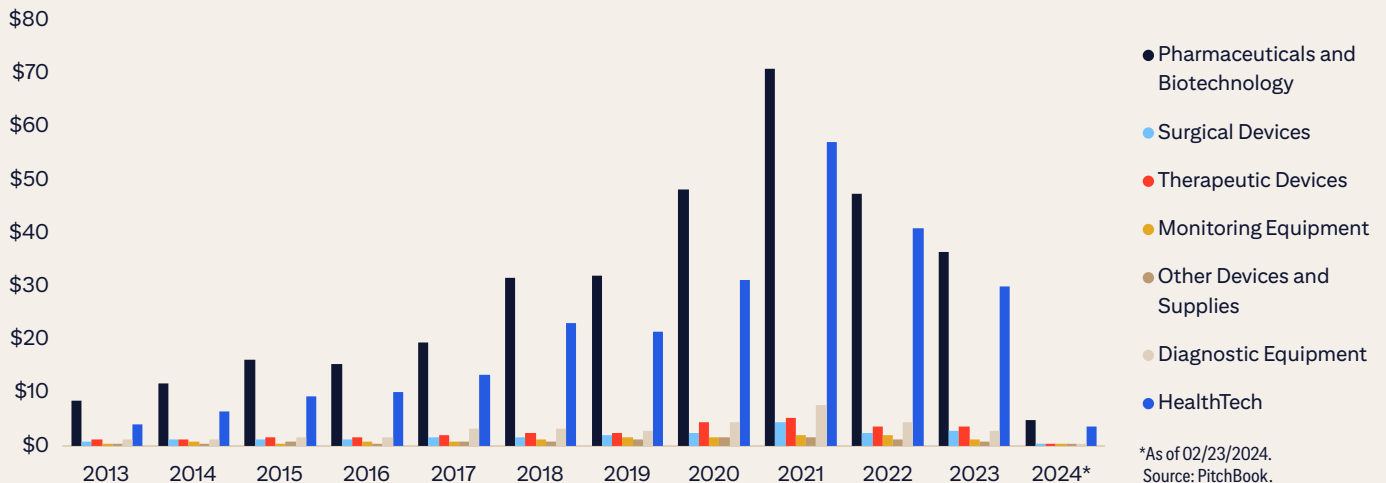
Market trends

Utilizing dedicated PitchBook verticals that span key healthcare segments, then filtering by venture deals to look at investment in emerging companies within those spaces, it is clear that the bulk of healthcare venture activity is concentrated in healthtech and biotech, at the forefront of digitalization and the profusion of improved hardware and software tools and services. AI is expediting select drug research pipelines while other critical advances such as gene editing, T-cell therapy, bioprinting, and microbiome research are increasing the diversification

and volume of potential therapeutics and their deployment. Telemedicine, improved analytics, and data collection, plus the explosion of fitness and wearables applications, are driving healthtech volume. Both segments host companies at differing stages of maturity that are garnering venture-growth dollars, while industry-specific venture firms are still propelling overall volume as tourist VCs retreat due to concerns over market conditions and pathways to profitability.

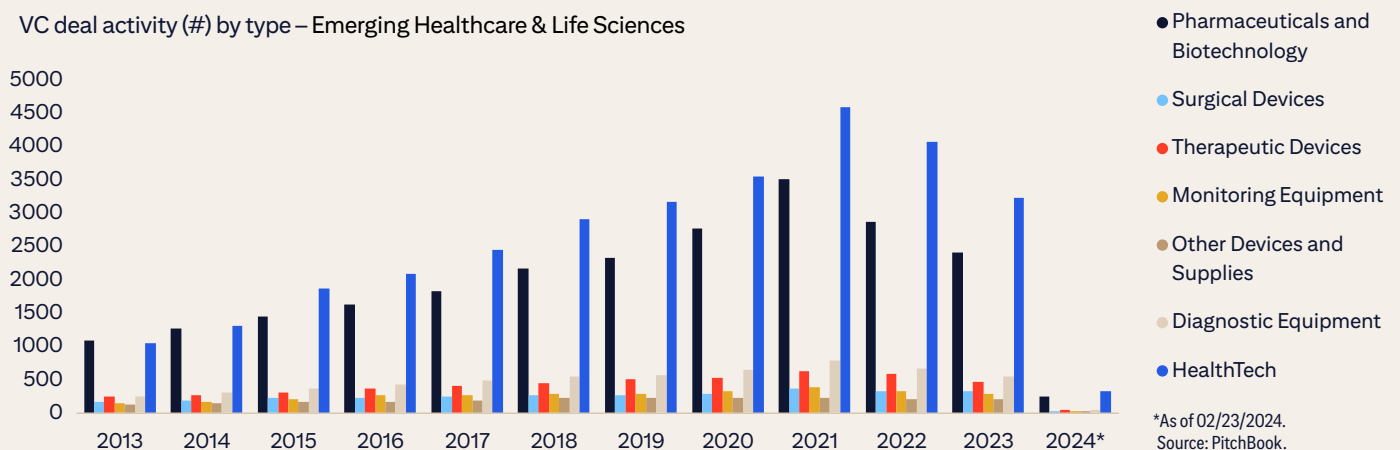
Biotech & healthtech drive the bulk of *all deals*

VC deal activity (\$B) by type – Emerging Healthcare & Life Sciences



Benefiting from a *surge in digitalization*, biotech & healthtech command the most capital invested

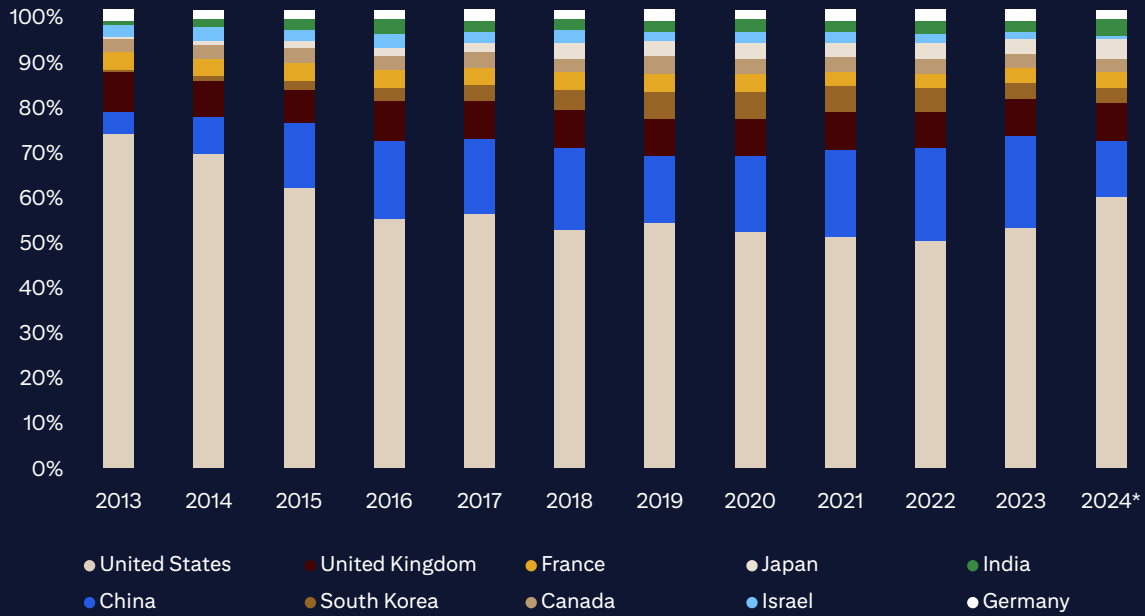
VC deal activity (#) by type – Emerging Healthcare & Life Sciences



³ [“2024 Outlook for Life Sciences GenAI, Drug Prices, Economy Likely to Influence Strategy,” Pete Lyons and Leena Gupta, December 6, 2023.](#)

As Chinese volume retreats slightly, the US regains a *commanding proportion*

Global VC deal activity (#) by top 10 countries – Emerging Healthcare & Life Sciences



*As of 02/23/2024. Source: PitchBook.

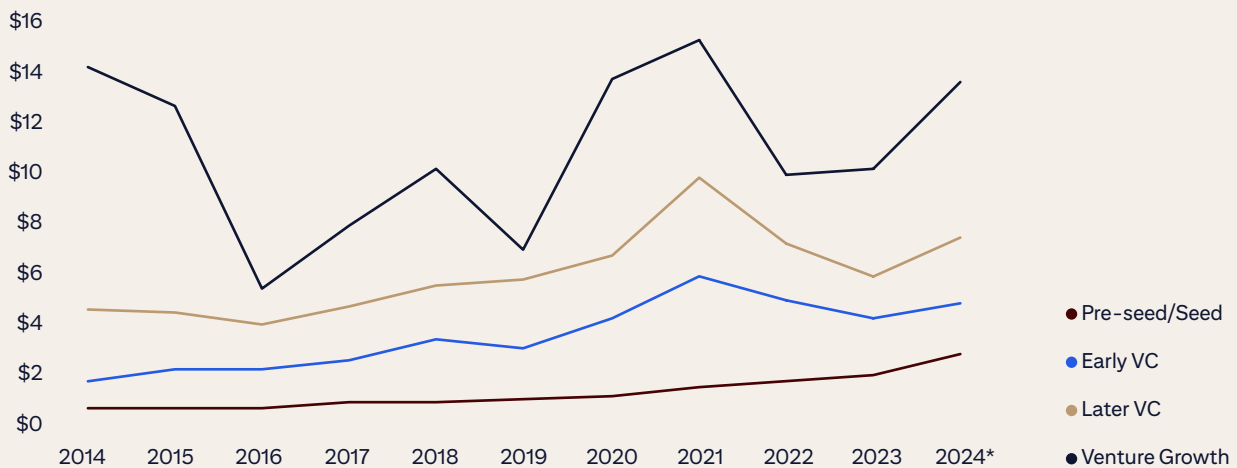


Despite ongoing market caution, financing metrics paint a nuanced picture. Median deal sizes are at either record levels in the pre-seed/seed stage, or close to highs in other stages; post-money valuations are tracking similarly. Such a confluence of trends speaks to elevated levels of capital commitments still available for VC fund managers to disburse, which act as a pricing support to some degree, even at the riskier

pre-seed/seed stage. That is in large part thanks to strong fundraising prior to 2022, while, given sector-specific expertise and anticipated stronger exit flow in the future, experienced life-sciences-focused firms in particular are willing to invest larger sums. The convergence of AI and select healthtech segments is likely also contributing to healthy valuations.

Pre-seed/seed hits an *all-time high*

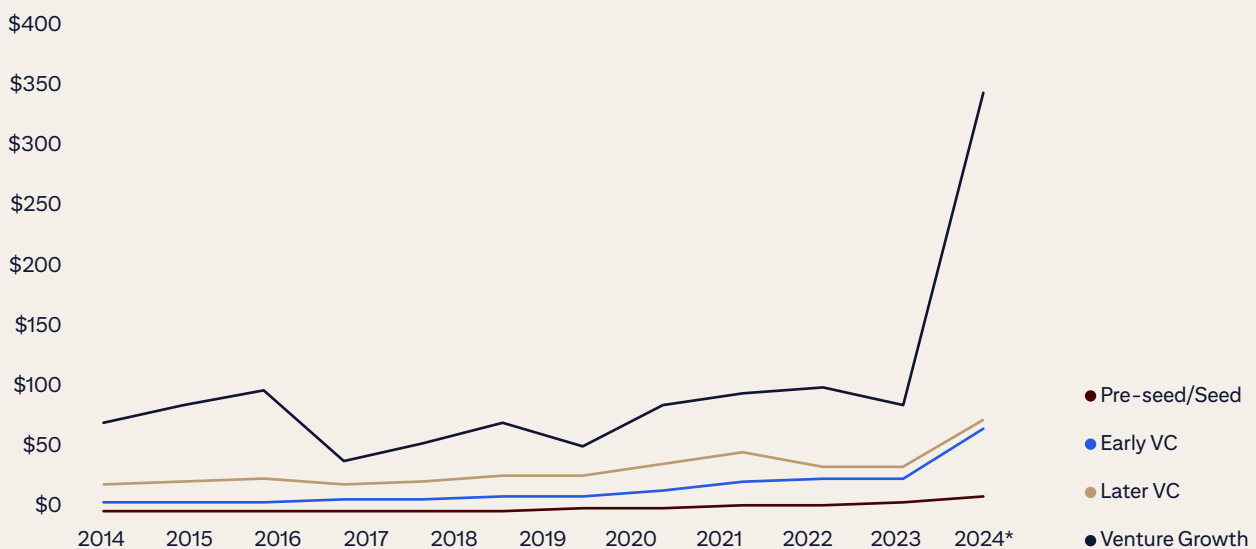
Global median VC deal size by type (\$M) – Emerging Healthcare & Life Sciences



As of 02/23/2024. Note: the 2024 venture growth figures are based on a non-normative population size. Source: PitchBook.

Valuations set *new highs* in 2024 to date

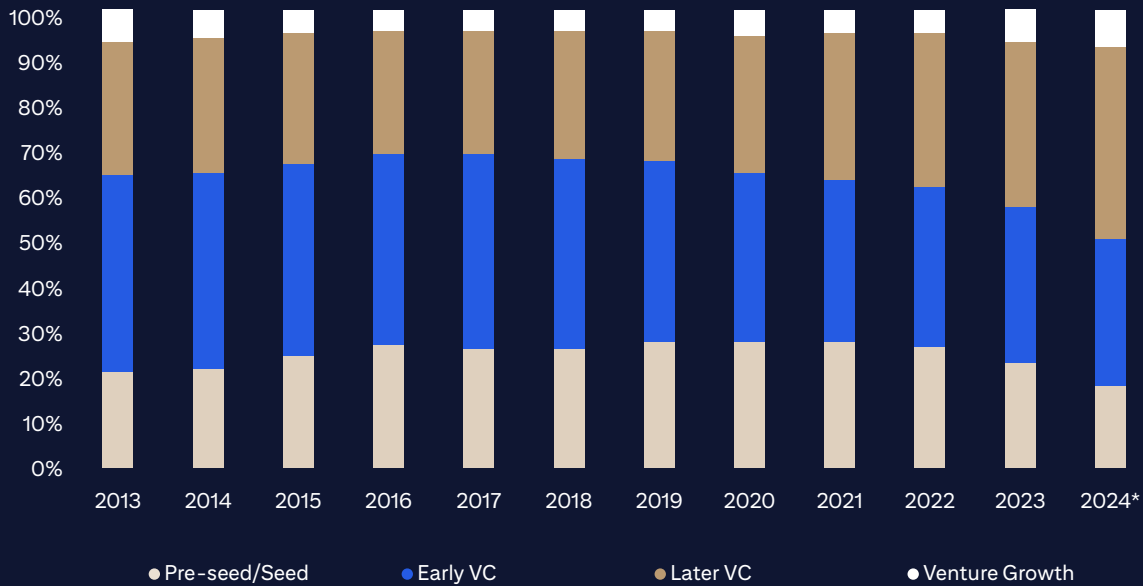
Global median post-value by type (\$M) – Emerging Healthcare & Life Sciences



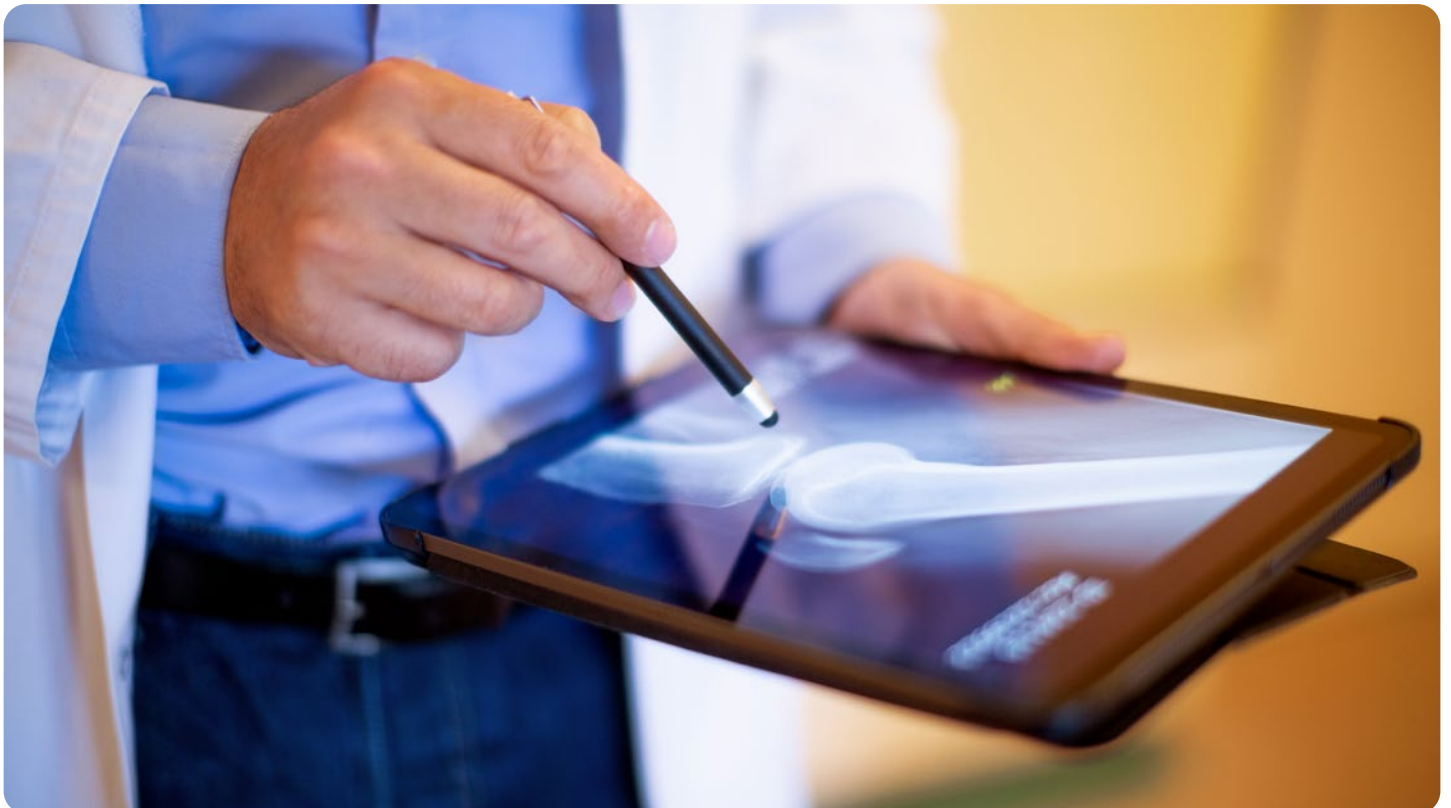
As of 02/23/2024. Note: the 2024 sample size for venture growth is based on a population of n = 6. Source: PitchBook.

In a time of caution, financings tilt toward the *later stage*

Global VC deal activity (#) by type – Emerging Healthcare & Life Sciences



*As of 02/23/2024. Source: PitchBook.

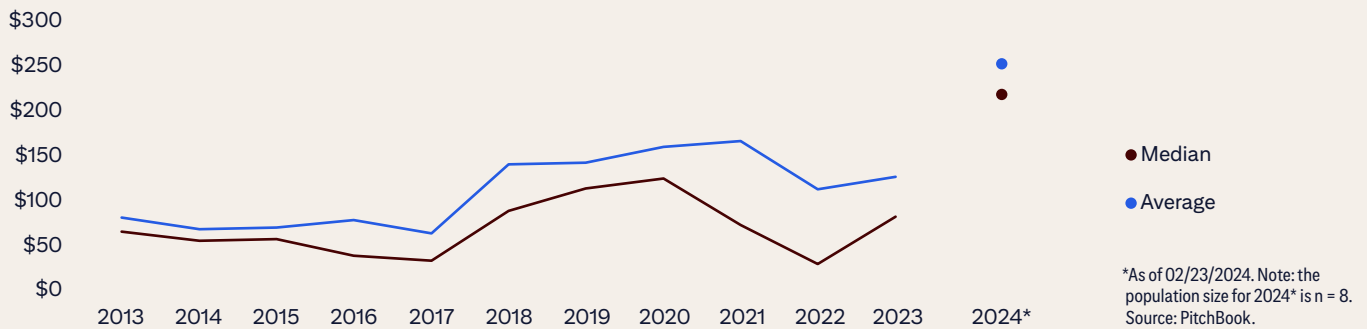


IPO volume for emerging healthcare companies peaked from 2019 to 2021. 2023 was a year of stabilization for the industry, with a larger acceleration towards the end of 2023 and early 2024. Recent all-time highs in indexes could encourage some companies to prepare for going public. However, as biotech's performance remains somewhat uneven, barring a recent rise in the Nasdaq Biotechnology Index as of early March

2024⁴, emerging healthcare companies' prospects may vary considerably by segment. Incumbent pharma giants will likely drive increased M&A volume as patent cliffs approach and economic concerns ease, while the recovering median in capital raised prior to going public indicates that firms are amassing resources to do so if necessary, with the option to also extend as private growth ramps further.

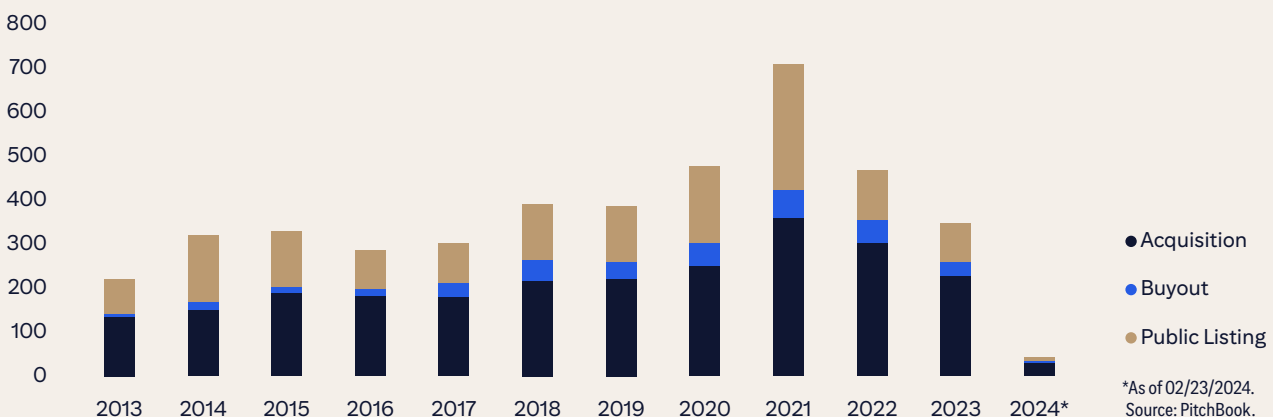
2023 saw a rebound in arsenals of capital raised *prior to listing*

Global VC raised (\$M) prior to public listing – Emerging Healthcare & Life Sciences



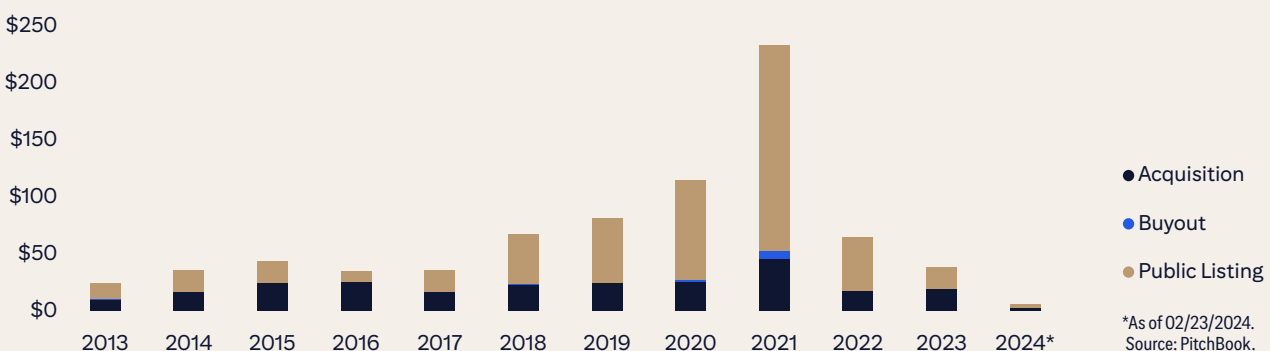
M&A remains a *critical exit route* in choppy markets

Global VC exits by type (#) – Emerging Healthcare & Life Sciences



After *record-breaking tallies*, IPOs dwindle to a trickle

Global VC exits by type (\$B) – Emerging Healthcare & Life Sciences



⁴ "Nasdaq Biotechnology Index," MarketWatch, n.d., accessed March 12, 2024.

About Citi Commercial Bank

Citi Commercial Bank provides global banking solutions to emerging and mid-sized companies that are looking to grow rapidly and expand internationally. With Citi's global network, comprehensive solutions, and industry expertise, we help these businesses succeed across a wide variety of industries and at most stages of their growth.

<https://citi.com/commercialbank>

Further Reading:



[Smart Thinking on AI in Healthcare](#)
Part 4: Biopharma
June 2023



[Smart Thinking on AI in Healthcare](#)
Part 5 – The role of clinicians
August 2023

Methodology:

PitchBook's standard reports methodology was utilized for classifying deal types, statuses, and geographies. For classifying verticals or sectors, the PitchBook verticals and/or industry codes of Pharmaceuticals & Biotechnology, Surgical Devices, Therapeutic Devices, Monitoring Equipment, Diagnostic Equipment and HealthTech, plus Other Devices & Supplies, were utilized. Venture deals and VC-backed exits methodologies were then applied to capture the emerging companies within these segments.



This communication: has been prepared by Citibank, N.A. (Citibank) for information and discussion purposes only and is distributed by or through its authorized affiliates (collectively with Citibank, the Firm); does not constitute an offer or solicitation to purchase or sell any financial instruments; contains information based on generally available information and, although obtained from sources believed by the Firm to be reliable, its accuracy and completeness is not guaranteed. Certain employees of the Firm may have access to or have acquired material non public information that may have an impact (positive or negative) on the information contained herein, but that is not available to or known by the author of this communication.

The Firm shall have no liability to the user or to third parties, for the quality, accuracy, timeliness, continued availability or completeness of any information herein or any information derived here from nor for any special, direct, indirect, punitive, incidental or consequential loss or damage which may be sustained because of the use of such information or otherwise arising in connection with this communication, provided that this exclusion of liability shall not exclude or limit any liability under any law or regulation applicable to the Firm that may not be excluded or restricted.

This communication is not intended to constitute "research" as that term is defined by applicable regulations. Unless otherwise indicated, any reference to a research report or research recommendation is not intended to represent the whole report and is not in itself considered a recommendation or research report.

The author of this communication may have discussed the information contained herein with others within the Firm and the author and such other Firm personnel may have already acted on the basis of this information (including by trading for the Firm's proprietary accounts or communicating the information contained herein to other customers of the Firm). The Firm performs or seeks to perform investment banking and other services for the issuer of any such financial instruments. The Firm, the Firm's personnel (including those with whom the author may have consulted in the preparation of this communication), and other customers of the Firm may be long or short the financial instruments referred to herein, may have acquired such positions at prices and market conditions that are no longer available, and may have interests different or adverse to your interests. You should assume that the Firm may be the issuer of, or may trade as principal in, the financial instruments referred to in this communication or other related financial instruments.

The Firm is not acting as your advisor, fiduciary or agent, and is not managing your account. The information herein does not constitute, and the Firm does not provide, investment, accounting, tax, financial, regulatory or legal advice, and the Firm makes no recommendation as to the suitability of any of the products or transactions mentioned. Even if we possess information as to your objectives in relation to any transaction, series of transactions or trading strategy, this will not be deemed sufficient for any assessment of suitability for you of any transaction, series of transactions or trading strategy. Any trading or investment decisions you make are in reliance on your own analysis, objectives, experience, resources and judgment and/or that of your advisors and not in reliance on the Firm. Prior to entering into any transaction, you should determine, without reliance on the Firm, the economic risks or merits, as well as the legal, tax, financial, regulatory and accounting characteristics and consequences of the transaction, and that you are able to assume these risks. To the extent that this communication concerns tax matters, it is not intended to be used and cannot be used by a taxpayer for the purpose of avoiding penalties that may be imposed by law. Any such taxpayer should seek advice based on the taxpayer's particular circumstances from an independent tax advisor.

This communication is not intended to forecast or predict future events. Past performance is not a guarantee or indication of future results. Any prices provided herein (other than those that are identified as being historical) are indicative only and do not represent firm quotes as to either price or size. You should contact your relationship manager directly if you are interested in buying or selling any financial instrument, or in pursuing any trading strategy mentioned herein.

None of the financial instruments mentioned in this communication (unless expressly stated otherwise) are (i) insured by the Federal Deposit Insurance Corporation or any other governmental authority, or (ii) deposits or other obligations of, or guaranteed by, Citibank or any other insured depository institution. Financial instruments denominated in a foreign currency are subject to exchange rate fluctuations, which may have an adverse effect on the price or value of an investment in such products. Investments in financial instruments carry significant risk, including the possible loss of the principal amount invested.

This communication contains data compilations, writings and information that are proprietary to the Firm and protected under copyright and other intellectual property laws and may not be redistributed or otherwise transmitted by you to any other person for any purpose. This communication may include a description of a trade idea and/or trading strategy based on an assessment of current market conditions, which may change quickly. There can be no assurance that any transaction or trading strategy discussed herein will not result in losses due to the unpredictability of markets, mistaken assumptions and/or other factors. Certain transactions, including, but not limited to, those involving swaps and options, give rise to substantial risk and are not suitable for all investors and/or market participants.

All commercial loans and credit lines are provided by Citibank or its banking or lending affiliates. All credit products are offered subject to satisfaction of Citibank's underwriting guidelines and credit approval. Fees and conditions, including minimum balances, apply to some deposit and other products and services described.

© 2024 Citigroup Inc. Citibank, N.A. Member FDIC. Equal Credit Opportunity Lender. Citi, Citi and Arc Design and other marks used herein are service marks of Citigroup Inc. or its affiliates, used and registered throughout the world.

© 2024 Citibank, N.A. (organized under the laws of USA with limited liability) and/or each applicable affiliate. All rights reserved by Citibank, N.A. and/or each applicable affiliate. Citi and Arc Design is a trademark and service mark of Citigroup Inc., used and registered throughout the world.