



Foreword



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The biopharma sector spent much of 2023 wondering whether investor sentiment could get any worse. As new depths were plumbed in October the answer appeared to be yes.

But there are reasons to believe that 2024 will see better times, if only because global interest rates, always this cash hungry sector's Achilles' heel, seem to have topped out.

But the macro environment is precarious, and vulnerable to shocks. Few are predicting a speedy, bump-free recovery. This report seeks to highlight the hints of an upturn that many believe is already underway. It also finds signs of ongoing difficult times for many in biopharma. This will be particularly true for those groups that need to raise cash for projects outside of "A-list" therapy areas and mechanisms, or for early, unproven approaches.

These hot areas, for example metabolic conditions like obesity or antibody-drug conjugates in oncology, managed to attract huge financial support last year, even when the wider funding climate was dire. The gravitational pull of validated





Unless companies can tell a very convincing growth story, investors are refusing to put money to work. This is likely to remain true next year, for both the public and private biopharma sectors. and successful approaches is unlikely to abate next year, sucking cash towards a fortunate few.

Progress in treating obesity and related conditions will remain a big story for biopharma in 2024. The enormous valuations currently boasted by Lilly and Novo Nordisk, this field's leaders, are bolstered by a belief that the incretin drug class will help promote radical improvements in the health of huge swathes of the population.

There are two themes to watch next year in this area: firstly, whether manufacturers manage to keep up with demand, and secondly, their progress in convincing payers that the benefits of their novel medicines are worth their high costs.

Follow-on projects from Lilly and Novo and others rank among the sector's most valuable pipeline assets, so emerging metabolic data will also be a big story for next year. Pfizer's stumble with its phase 3 oral agent danuglipron shows this field is not immune to setbacks.

This report also highlights other big hopes waiting in the wings. Could 2024 finally see a late-stage breakthrough in pain, delivered by Vertex? Meanwhile, small developers feature heavily in the list of biggest potential drug launches, which signals nervous times for biotech investors, and perhaps rich times for deal bankers.

Sections on IPOs and venture capital show how the financing wheels seemed to turn a little faster as 2023 went by, raising hopes for further acceleration next year. Elsewhere, the FDA, another big sector preoccupation, is on track for another strong year of approvals, according to Evaluate Omnium.

These positive signals must be tempered by reality, however. While the financial markets remain jittery biopharma will be held to a high standard, with only clear successes rewarded.

This was true for both small and large developers last year. Sanofi and Bayer both suffered huge share price slumps after disappointing investors in 2023. Big pharma trading like biotech is a sure sign of poor sentiment.

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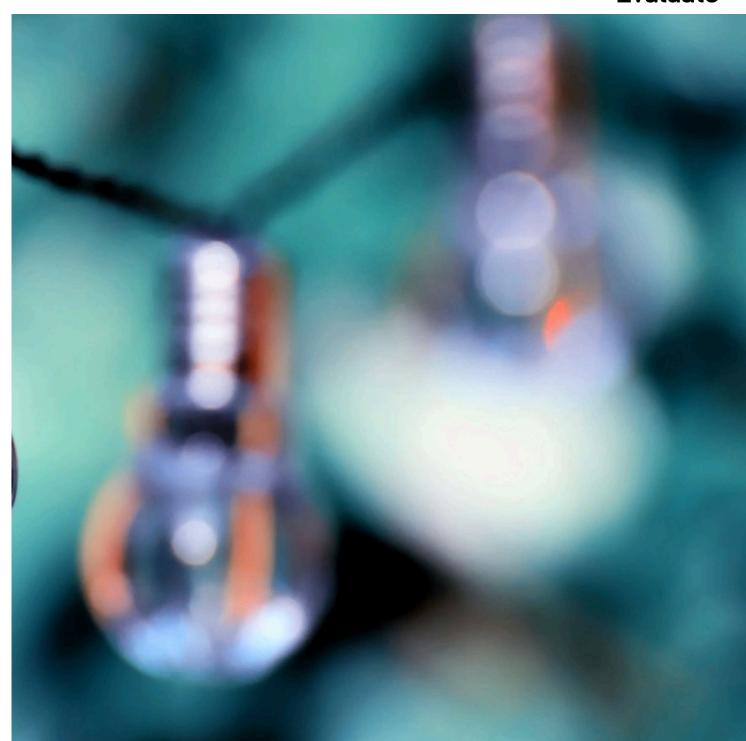
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Innovation and Regulation



Growing Biopharma's Topline: Drugs

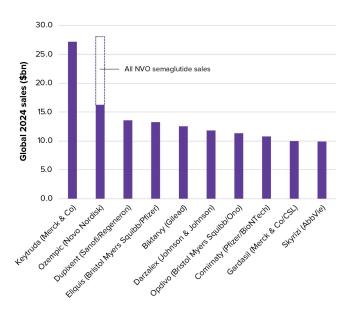
Merck & Co's Keytruda is projected to be the world's top-selling drug in 2024, the second year in pole position for the widely used monoclonal antibody.

With Keytruda also featuring as one of the sector's fastest growing drugs, Bristol Myers Squibb's rival anti-PD-1 agent appearing in the top 10 sellers and a handful of other similarly acting contenders also pulling in blockbuster sales, the success of this immuno-oncology mechanism is clear.

Keytruda's claim on the top spot is not beyond debate, however. Novo Nordisk sells Ozempic, a type 2 diabetes medicine, under other brand names: Rybelsus, and in obesity Wegovy. All contain the same active ingredient, semaglutide, a GLP-1 agonist that is forecast to generate more than \$28bn in annual sales across all its brands next year.

Massive expectations sit behind this metabolic drug class, for 2024 and beyond. Lilly is Novo's biggest rival for now, thanks to the GIP/GLP-1 agonist tirzepatide, an agent that is also sold under different brand names in type 2 diabetes and obesity – Mounjaro and Zepbound respectively. As such, tirzepatide's reach is also underemphasised in this brand name-based analysis.

Top selling drugs in 2024

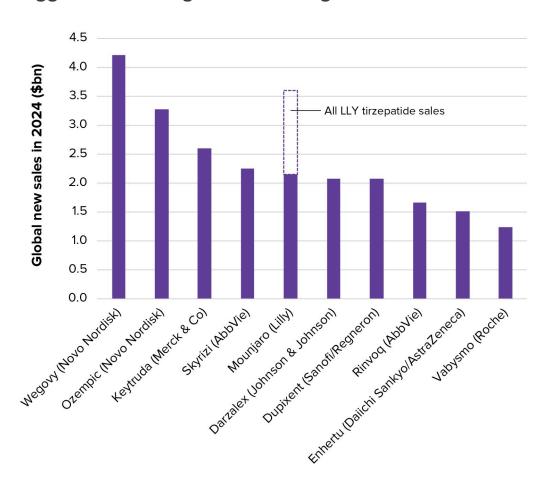


Note: Forecasts include sales booked by all global marketing partners, where relevant.

Elsewhere, the booming nature of the immunology space is demonstrated by vast and expanding sales of brands like Dupixent, Skyrizi and Rinvoq, sold for diseases including asthma, psoriasis and rheumatoid arthritis. Merck's HPV vaccine, which protects against cervical cancer, is projected to breach the \$10bn mark in 2024, driven in part by ballooning demand in developing regions.

Finally, the arrival of Enhertu in the ranking of fastest growing drugs reinforces huge excitement around antibody-drug conjugation. Impressive clinical activity has analysts forecasting big things for the Her2-targeted drug, which is marketed for breast and lung cancers.

Biggest new sales generators: drugs



New sales is the difference between 2024 and 2023 sales. Source: Evaluate Pharma

Growing Pharma's Top Line: Companies

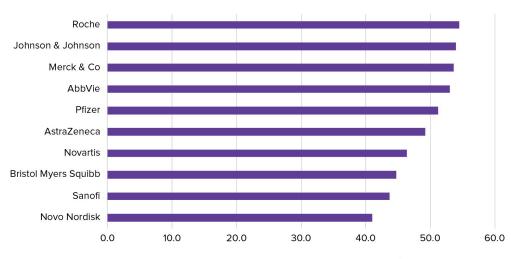
Pfizer and BioNTech's Comirnaty is the sector's only Covid contributor to make it into this 2024 analysis, although the vaccine is unlikely to feature in future years.

Declining demand across Pfizer's pandemic portfolio will rob the developer of its revenue advantage over its big pharma peers next year, as well as its position as the sector's largest maker of prescription drugs.

For now, Evaluate Pharma's consensus, derived from sellside analysts' forecasts, has Roche at the top of the table. Despite recent pipeline setbacks the Swiss pharma giant's existing biologics franchise, lead by Ocrevus for MS, the anti-cancer agent Tecentriq and Hemlibra for haemophilia, is enjoying huge demand. It also has the largest suite of blockbuster agents among this peer group, with 17 Roche brands expected to bring in sales of more than \$1bn next year.

Changes from last year's report are also evident at the bottom of this table, with Novo Nordisk knocking out GSK to claim a top 10 revenue position. Ballooning metabolic franchises are bestowing industry-leading top-line growth rates on both the Danish firm and its US rival Lilly.

Biggest companies in 2024



Forecast prescription drug sales in 2024 (\$bn)

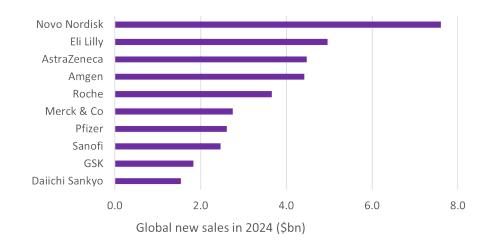
Note: New sales is the difference between 2024 and 2023.

The prospect of substantial future sales and earnings growth has prompted investors to reward Novo and Lilly enormous stock market valuations. Pfizer, by contrast, has been punished for its top-line contraction. A table ranking these developers on market cap would throw up a very different order, with Lilly way out in front.

Elsewhere, AstraZeneca can thank clinical and commercial success across its broad oncology business for its expanding revenues. One plank of that, the ADC Enhertu, has helped pull Daiichi into this analysis.

And while GSK might rue dropping out the top 10, it is not an ex-growth story. The UK group's vaccine business has scored a handful of hits in the last few years, most recently in respiratory syncytial virus (RSV) with a stronger than expected launch of Arexvy. Its shingles jab, Shingrix, has also bounced back strongly after the Covid lull.

Global new sales in 2024 (\$bn)



Source: Evaluate Pharma

Waiting in the Wings: Biggest Launches

A rare win in schizophrenia puts Karuna at the top of the table in terms of anticipated launches next year.

Still, as we see from the table on the next page, this is a space in which setbacks cannot be ruled out: the FDA's rejection of Sage's schizophrenia project zuranolone was one of 2023's biggest regulatory disappointments.

Alzheimer's disease will continue to be a hot topic next year. Lilly is waiting to find out whether the FDA is comfortable with donanemab, its rival offering to Eisai's Leqembi, which is already on the US market.

Elsewhere, Madrigal is hoping to win biopharma's first Nash approval, a disease area that has long disappointed. Moderna is striving to launch the third RSV vaccine; with GSK and Pfizer already on the market, the young developer will have to fight hard for share, and make a name for itself outside of Covid.

AstraZeneca and Daiichi are bidding to push the ADC field forward once more with datopotamab, a Trop2-directed agent that has scored in lung and breast cancers. Confident statements from executives notwithstanding, the regulatory process will have to proceed without delay for this project to cross the line in 2024. There is an outside chance that another Daiichi ADC, patritumab deruxtecan, licensed to Merck & Co in a huge 2023 deal, might also reach the market next year.

BridgeBio represents a remarkable turnaround story from late 2021, when accramidis failed the first part of its pivotal programme. Several other small names feature here, an analysis that is typically dominated by large developers better equipped for managing a launch. The valuations of Verona, Geron and ImmunityBio point to some confidence in these groups' ability to succeed. With investors' tolerance for disappointment unlikely to improve guickly next year, however, these are four names with much to prove.

Biggest potential drug launches of 2024

Product	Companies involved	Description	Status	2028e sales
KarXT	Karuna Therapeutics	M1/M4-muscarinic agonist for schizophrenia	PDUFA September 26, 2024	\$2.8bn
Donanemab	Eli Lilly	Anti-amyloid MAb for Alzheimer's disease	Company expects to provide update on FDA approval in Q1'24 (previous complete response letter)	\$2.2bn
Resmetirom	Madrigal Pharmaceuticals	THR β agonist for NASH	PDUFA March 14, 2024 (priority review)	\$2.1bn
Sotatercept	Merck & Co	Activin receptor 2a regulator for pulmonary arterial hypertension	PDUFA March 26, 2024 (priority review)	\$2.0bn
Datopotamab Deruxtecan	Daiichi Sankyo/ Astrazeneca	Anti-Trop2 ADC for lung and breast cancers	Phase 3 reported in lung and breast; company is "moving to filing" in both settings in the US and Europe and hopes for 2024 decision	\$1.8bn
Acoramidis	BridgeBio Pharma	Transthyretin (TTR) stabiliser for cardiomyopathy	Company intends to file with the FDA by YE'23	\$1.0bn
mRNA-1345	Moderna	RSV vaccine	Global filings submitted (priority review voucher used in US); company expects to launch in 2024	\$913m
		1L-15 superagonist plus BCC for BCC- unresponsive non-muscle-invasive Open full tabl cancer https://evaluate.turtl.co/story/2	e in browser: 23, 2024 (previous complete response letter) 2024-preview-ebook/page/3/6	

Source: Evaluate Pharma

Waiting in the Wings: Most Valuable R&D

Metabolic disease developments are likely to continue dominating sector headlines in 2024, with Novo Nordisk and Lilly's fight for share in diabetes and obesity a particular focus.

Novo and Lilly are investing huge sums to ensure they remain market leaders and their follow-on projects are among biopharma's most valuable R&D assets.

This table (next page) shows some of the sector's most highly valued research projects, ranked on net present value. Evaluate Omnium computes these NPVs from sellside consensus sales forecasts.

Cagrisema is Novo's fixed-dose combination of the novel amylin receptor agonist cagrilintide and semaglutide, the active ingredient in Ozempic and Wegovy. A vast pivotal programme is likely to start reporting out in 2025. The first phase 3 data on Lilly's tirzepatide follow-on, the oral GLP1-agonist orforglipron, should emerge the same year.

Next year could also see the revival of Roche's controversial Tigit project, should the long-awaited final readout from Skyscraper-01 impress. The trial, and tiragolumab itself, had been largely written off after disappointing interim data, but a disclosure last year of what seemed to be an improving survival picture lifted hopes once again.

Tigit blockade was for a while considered the next big blockbuster immuno-oncology target, but its potential remains an open question. Several other developers are also ploughing substantial sums into the mechanism, so the outcome will have wide repercussions.

Elsewhere, data on Johnson & Johnson's nipocalimab will help determine whether Argenyx has competition looming in the highly valued FcRn space. And finally, Vertex will start reporting data Phase III from its pain project VX-548. Progress here would represent the first breakthrough with a novel mechanism in decades, and the valuation of this asset is likely to soar if encourage efficacy and safety emerges.

Biopharma's valuable R&D projects

Project	Companies involved	Description	Net present value
Cagrisema	Novo Nordisk	Fixed-dose combination (amylin analogue + GLP-1 analogue) for type 2 diabetes and obesity. Pivotal programme readout from 2025.	\$30.2bn
Orforglipron	Eli Lilly	Oral GLP-1 receptor agonist for type 2 diabetes and obesity. Pivotal programme readout from 2025.	\$13.0bn
Vanzacaftor	Vertex Pharmaceuticals	CFTR regulator for cystic fibrosis; part of a new triplet therapy due to yield phase 3 data in early 2024.	\$10.7bn
Tiragolumab	Roche	Anti-Tigit Mab for lung and other cancers; pivotal readouts due from Q1'24	\$5.2bn
Aficamten	Cytokinetics	Cardiac myosin inhibitor for hypertrophic cardiomyopathy; in two phase 3 trials due to read out in late 2023 and 2025	\$4.6bn
Camizestrant	AstraZeneca	Oral SERD for breast cancer; pivotal programme recruiting with data due from 2024.	\$4.5bn
Giredestrant	Roche	Oral SERD for breast cancer; pivotal programme due to yield data in 2025.	\$3.8bn
Evobrutinib	Merck KGaA	BTK inhibitor for MS; pivotal data due in 2024	\$3.6bn
Nipocalimab	Johnson & Johnson	FcRn antagonist in broad autoimmune development programme; phase 3 data in myasthenia gravis due in 2024	\$3.6bn
VX-548	Vertex Pharmaceuticals	Nav1.8 channel blocker for pain; phase 3 data in acute pain due early 2024, neuropathic pain late 2023.	\$3.4bn

Source: Evaluate Omnium

The Regulatory Environment

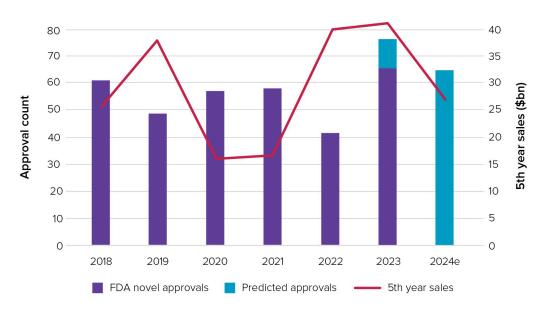
Another healthy crop of approvals is on the cards in 2024, according to Evaluate Omnium, which identifies 65 novel projects with a high probability of receiving a green light from the influential US regulator next year.

Such an outcome would help dispel concerns in some quarters about a tightening up at the FDA.

In particular, the agency's use of advisory committee meetings will be closely watched next year. The regulator has consulted considerably fewer of these panels of outside experts in the last few years, <u>research has shown</u>. Meanwhile, Robert Califf, FDA commissioner since early 2022, has mooted certain changes in format. Most notably, he suggested moving away from the use of voting questions.

The pandemic presumably played a role in the drop in the number of adcoms being held. Some committees chose not to meet virtually and perhaps activity has yet to return to pre-Covid levels. But these hearings allow early insight into the FDA's thoughts around applications, and their absence would make more approval decisions harder to call. With the biotech sector likely to struggle with jittery markets next year, any increase in unpredictability at the FDA would be a further negative.

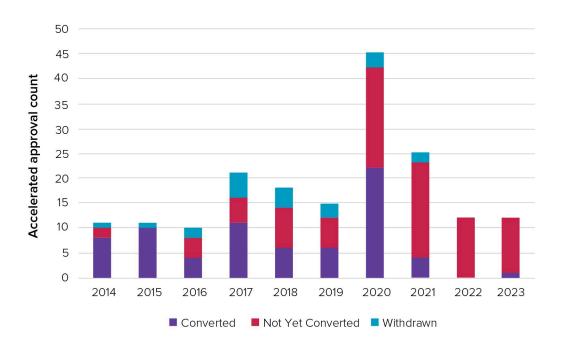
Tracking US approvals: another strong year?



Note: Count includes novel therapeutics approved by both CDER and CBER. Source: FDA and Evaluate Pharma

Elsewhere, the agency's clamp down on accelerated approvals is likely to continue next year. The number of these swift green lights fell below the 10-year average in 2022 and 2023. This route, which allows breakthrough drugs to be launched earlier in the development cycle, is now only worth attempting if plans to generate confirmatory data are well advanced.

FDA tightens up on accelerated approvals



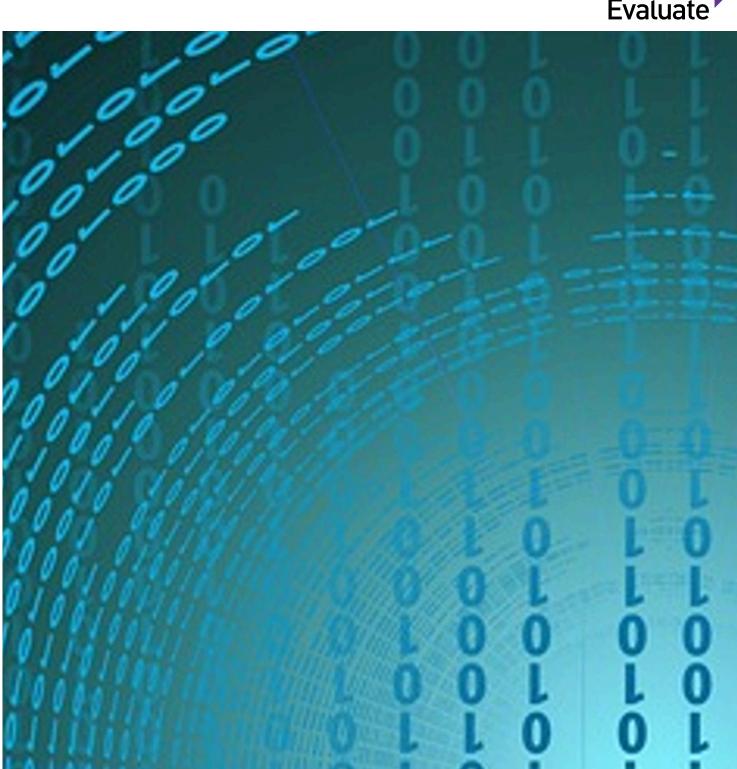
Note: 2023 count to end September. 2020 inflated by 16 accelerated applications by Merck & Co for alternative Keytruda dosing regimes.

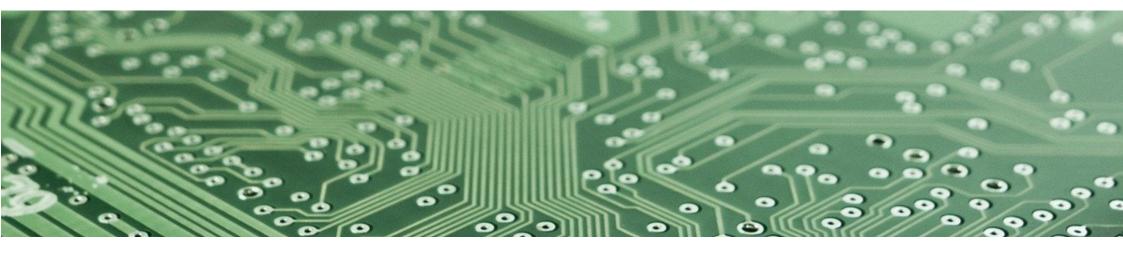
Source: FDA



Digital Health

Contribution from Galen Growth





2023 – A Digital Health Ecosystem at a Critical Inflexion Point

The Digital Health ecosystem finds itself at a pivotal juncture, navigating a transition from exaggerated expectations to pragmatic realities following the exuberance in the period running up to and including 2021. This sector, now over a decade old, has burgeoned into a thriving domain of diverse Digital Health ventures, boasting a staggering 10,000+ private entities, each exhibiting varying degrees of innovation and promise.

However, this flourishing landscape is presently weathering a challenging funding drought. Recent data reveals that less than 40% of Digital Health ventures managed to secure funding in the past 18 months, marking a significant decline in investor appetite [See chart: Funding Strength].

The realm of mergers and acquisitions (M&A) has witnessed a notable deceleration, while initial public offerings

(IPOs) and Special Purpose Acquisition
Company (SPAC) activities remain scant,
especially evident in Europe where the
absence of recorded IPOs further
underscores the industry's subdued state.
[See chart: Global Digital Health Venture
Exit History].

The narrative of this evolving sector has been punctuated by high-profile shutdowns, exemplified by Pear Therapeutics (US), Olive.ai (US), and



Babylon (UK).

These entities, despite substantial funding and lofty valuations, faltered due to unrealistic growth assumptions, setting a precedent likely to be echoed by similar shutdowns in 2024.

Generative AI aka GenAi also emerged as the focal point for Digital Health in 2023, capturing the collective attention of industry players, investors, innovators,



Julien de Salaberry, CEO, Galen Growth

and media alike. Its ascent in sectors, such as biopharma and health systems, demonstrates its dominance as the year's hottest topic in Digital Health innovation.

[See chart on next page: Share of Biopharma Digital Health venture partners using Al/Machine Learning and Generative Al]

The pronounced pain points within the healthcare value chain have assumed a pivotal role in shaping priorities and focus within the Digital Health domain. This shift has drawn intensified commitments

from pharmaceutical companies, increasingly investing in Digital Health innovation within their research endeavours. Concurrently, health systems are redoubling their efforts in leveraging Digital Health innovation to enhance healthcare delivery, to address their growing capacity and productivity issues.

In summary, the Digital Health ecosystem

stands at a critical juncture as it enters 2024, recalibrating its trajectory amid funding challenges, notable setbacks, and a much-needed focused emphasis on addressing core healthcare challenges.

The industry's resilience and adaptability will be tested as it navigates this transition from hype to pragmatic innovation, setting the stage for a

dynamic and potentially transformative future.

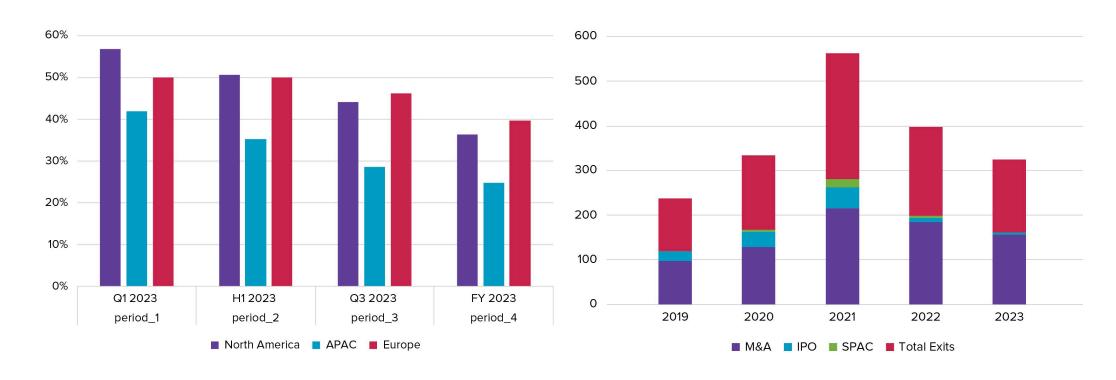


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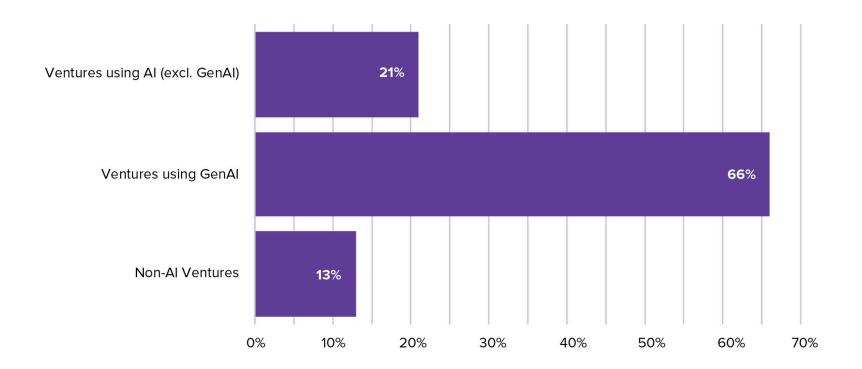
Percentage of Growth Stage ventures which have raised funding in the last 18 months

Global Digital Health Venture Exit History



Note: Includes only ventures with publicly displayed funding events, data as per December 5, 2023.

Share of Biopharma Digital Health venture partners using AI / Machine Learning and Generative AI





2024 – Digital Health Turns The Corner Stronger



The forecast for the initial half of 2024 in the Digital Health sphere resembles a continuation of the trends witnessed in the preceding year. The landscape remains ensnared within the array of geopolitical uncertainties, with the impending US general election adding a new layer of complexity to the ecosystem's narrative. However, optimism emerges on the horizon as the latter half of the year witnesses a pivotal turning point for the Digital Health sector.

Amidst this landscape of continued volatility, the industry is steadfastly steering towards a trajectory of becoming a faster, better, and more robust ecosystem. Regulations and reimbursement frameworks are gradually taking shape, catalysed by a Health System crisis exacerbated by Healthcare Providers' sluggish adoption of Digital Health innovations. The resultant push from payors to craft Digital Health reimbursement frameworks such as DiGa (Germany) and PECAN (France) stands as

a barometer to this evolving paradigm.

Within Digital Health Ventures, the impending expiration of funding runways for many entities looms large, prompting valuations to hit their nadir. Emphasis now squarely rests on forging pathways to profitability, augmenting efforts towards robust proof points such as

clinical evidence. The landscape is ripe for continued consolidation, marked by a confluence of M&A activities and business shutdowns. The ideal focus shifts towards constructing Digital Health Platforms that offer value-addition, seamless interoperability, and holistic solutions over disparate point solutions. Biopharma will focus increasingly on

Digital Health innovation in drug Research



Emphasis now squarely rests on forging pathways to profitability, augmenting efforts towards robust proof points such as clinical evidence.



and Development productivity, as it faces a significant patent cliff and pipeline drought. Health Systems will focus on Digital Health innovation to increase capacity and improve productivity, as it faces growing demand, labour shortage and labour costs. The alarming situation in the UK with an NHS waitlist exceeding 8 million people (12% of the population) leading 40+% of UK citizens to self-diagnose as they cannot access healthcare services, is reflective of the status of many other health systems and underscores the urgency for transformative healthcare solutions.

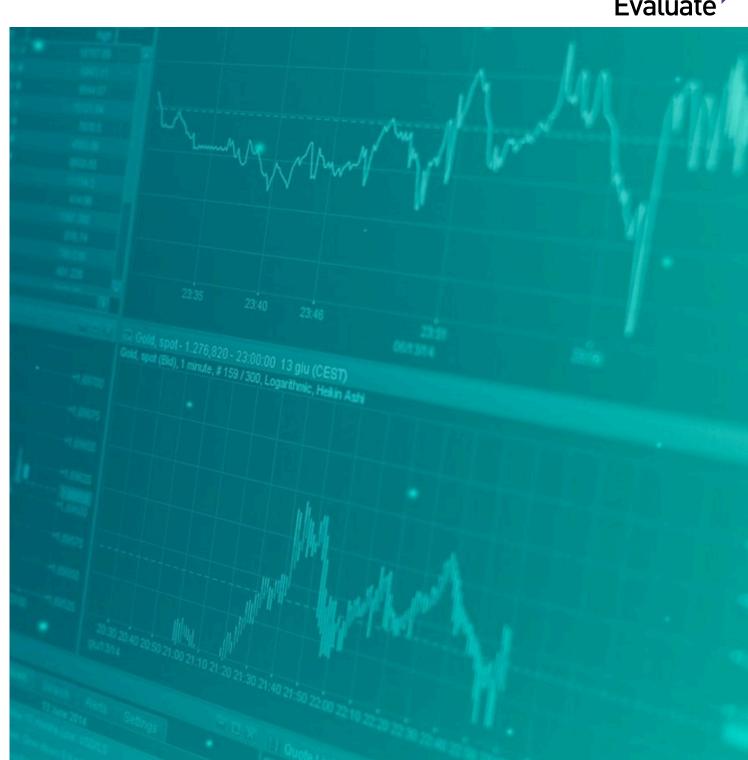
players facilitated by easy access to capital, confronts an inevitable consolidation. This shakeout will however create opportunities, and reshape the landscape, shifting away from short-term, pump-and-exit strategies towards sustainable venture-building approaches.

Despite these multifaceted challenges, 2024 holds promise for discerning investor organisations and forwardthinking entities within the Digital Health sector.

Investors, faced with a constrained value chain characterised by diminished exits and an acute dearth of IPOs, grapple with the challenge of seeking better returns amid a higher cost of capital environment. Valuations, which are finding a bottom, will have a cascading effect on follow-on rounds and multiples on invested capital (MOIC). The venture capital sector, overcrowded due to an influx of new



Money, Markets and M&A



Stock Market Performance

A bounce back in closely followed biotech stock indices in the final weeks of 2023 has raised hopes for a sustained recovery next year.

The XBI, an exchange traded fund that tracks a large group of Nasdaq-listed biotechnology groups, surged 25% through November and early December, after plunging to an almost seven-year low in late October.

The upturn came as a huge relief to investors who, throughout the summer and into autumn, had witnessed biotech substantially underperform other high-risk industries. However, few expect to see a dramatic U-turn in the negative sentiment that has pervaded biotech in 2023. Any recovery is likely to be slow, with bumps along the way, investors believe. Interest rates and inflation might be moving in more favourable directions, but the world's post-pandemic economies remain vulnerable to shocks, and that never provides a strong backdrop for biotech.

Political events in the US are always influential on sentiment toward the pharma sector, and investors will be watching two of these themes next year. Firstly, the presidential election, and secondly the progress of several lawsuits that are challenging the Inflation Reduction Act. Alleging unconstitutionality, companies including Merck & Co and Bristol Myers Squibb are seeking to stymie the IRA, while warning about the act's negative impacts.

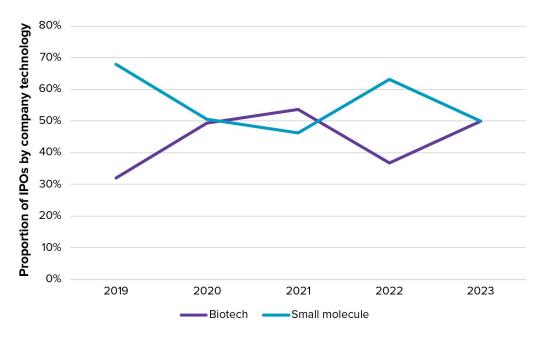
Biotech Underperforms



Note: This chart shows the relative performance of three equal weighted exchange traded funds that track US listed companies. XBI includes biotech stocks from across the market cap spectrum. XLV includes pharmaceutical companies, healthcare equipment and medtech. RSP includes all stocks in the S&P 500. Source: Yahoo Finance.

One major complaint is that small molecules will attract less investment than biologics, because of certain patent advantages. This has yet to show up in one measure of early-stage capital allocation, shown in the second graph here. This tracks the technologies being pursued by recent IPOs, which could arguably be seen as a proxy for venture funding flows.

Tracking the impact of the IRA: IPOs by company technology



Note: IPOs of pure-play drug developers on Western exchanges only. Source: Evaluate Pharma.

IPOs

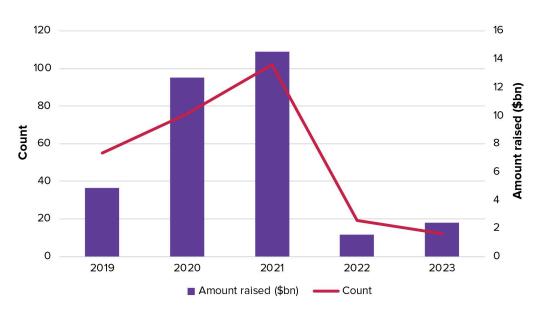
The IPO market is an important measure of the biopharma sector's health, and there are reasons to believe that certain vital signs here are improving.

One, for instance, is the return of crossover investors – public investors that help groups float by backing large, late private financing rounds. They were largely absent from the IPO market throughout the downturn.

Most of 2023's biggest flotations, including Acelyrin, Cargo Therapeutics and RayzeBio, featured crossover investors. All operate in hot fields – inflammatory disease, Car-T and radiopharmaceuticals respectively. That said, the failure of Acelyrin's lead project four months after the group floated, and the resulting share price crash, was not great news for a sector trying to tempt back more of these cash-rich investors.

Metabolic disease researcher Carmot had also received substantial crossover backing, though Roche swooped in with a \$2.7bn buyout weeks before its late 2023 IPO. This shows how these investors are limiting their support to relatively "safe" bets for now, the Acelyrin blow-up notwithstanding.

On the up? Annual biopharma IPOs



Note: IPOs of pure-play drug developers on Western exchanges only. 2023 to end-November. Source: Evaluate Pharma.

It seems likely that 2024 will see this trend continue, with the IPO scene dominated by large, well supported offerings. Relatively de-risked mechanisms or projects will be favoured. It is notable that only two sub-\$50m IPOs happened in 2023.

Many venture firms are known to be in urgent need of liquidity. And with a huge bolus of IPO-ready developers waiting in the wings, pent up pressure could quickly push the window open, as soon as glimmers of demand emerge.

Still, investor enthusiasm is likely to remain low for smaller offerings that involve early stage or unvalidated science. The financing climate is likely to remain tough next year for those on the fringes of the sector.

Venture Funding

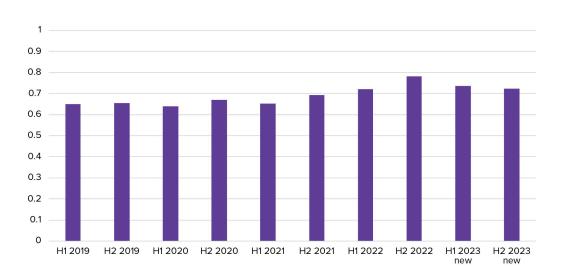
Sector venture funding has been falling since 2021's pandemic peak, and 2023 is likely to see annual totals drop again.

Evaluate's <u>latest report on sector financing</u> showed a dip in venture cash raised in the third quarter of 2023 on the second quarter, and the final three months of the years tend to be the quietest.

There are reasons to believe that 2024 could see an uptick, however. Should IPOs recover, the return of crossover funds and the large rounds that they back could swell the total venture pot.

There are also signs that venture firms are becoming more comfortable taking on new investments. The first graph here shows that in the second half of 2022 almost 80% of venture cash raised went to previously supported portfolio companies, the highest proportion in at least five years. In 2023, that proportion has started to return towards more typical levels.

% of venture rounds where company had prior funding

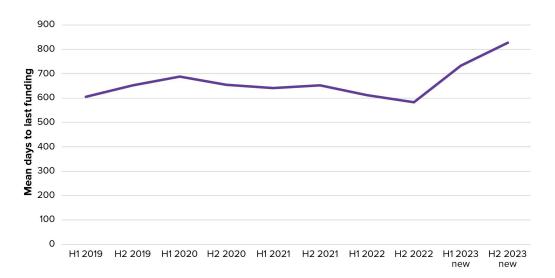


Note: All data concerns venture cash raised by developers of therapeutics; medtech and diagnostics excluded. 2023 to mid-November.

Then again, there are other measures that suggest that life for many young start-ups is likely to remain tough for some time. Backers are forcing their portfolio companies to make their money last as long as possible, with the second chart here showing the average time between fundraisings hitting a five year high in 2023.

It should not be forgotten that the bigger picture here is encouraging. The volume of private money being raised each year, by both biotech-focused venture funds and their portfolio companies, remains at historically healthy levels. But with much of the cash flowing towards "safer" ideas, next year could see capital further concentrated into fewer hands.

Mean time to last funding round



M&A

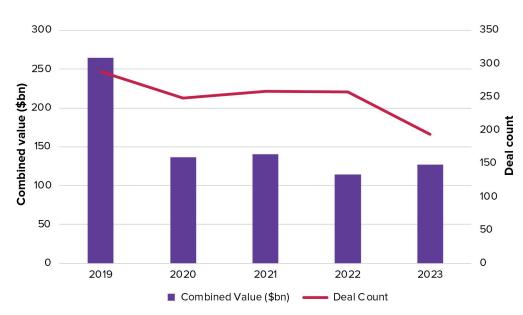
Biopharma dealmaking picked up in 2023 versus 2022, and further acceleration is expected next year.

Annual takeover spend reached \$127bn by mid-November 2023, Evaluate Pharma calculates, a number that excludes a handful of notable December deals.

These include Abbvie's \$10.1bn bid for the ADC developer Immunogen, underscoring this technology's popularity. Elsewhere, Roche's new chief executive continued to make good on his pledge to restock the group's pipeline, buying obesity play Carmot for \$2.7bn up front, weeks after splashing out \$7.1bn on Roivant's inflammatory bowel disease asset.

These deals show that the sector's largest developers are willing to pay handsomely for desired assets, particularly those perceived to be relatively de-risked. This stance is unlikely to change in the coming years, given the substantial firepower at these firms' disposal.

Annual announced M&A deals



Note: Biopharma targets only, excludes sectors like medtech or consumer health, 2023 to mid-November, Source: Evaluate Pharma.

This picture of healthy deal flow also suggests that the US Federal Trade Commission's attempts to clamp down on sector consolidation has not had the desired effect. True, many believe that the anti-trust watchdog's overtures are forcing management teams to think more carefully before launching a move, as well as extending buyout timelines.

Another huge M&A driver is patent expiry, a theme that is likely to build as the decade progresses. 2024 is relatively quiet on this front, with only a handful of notable expiries. These include Bristol Myers' leukaemia blockbuster Sprycel and Johnson & Johnson's rheumatoid arthritis agent Simponi.



