INSIDE THE C-SUITE

Pharma leaders share
their vision for AI.

JULY | 2025

DEFINE
VENTURES

THE PHARMA COMPANY OF THE FUTURE IS TAKING SHAPE

Over the past six months, Define Ventures spoke with several dozen C-suite leaders across Big Pharma, Big Tech, and enterprise healthcare to understand how AI is being applied across the value chain. This report provides rare visibility into how these leaders are actually deploying AI and how that transformation is unfolding — offering actionable insights for both founders building in the space and executives leading change within large organizations.

"The question is not how do we improve a cumbersome process, it's do we need to do the process at all?""

— David Reese, CTO

AMGEN

PARTICIPANTS

We conducted extensive research through surveys and in-depth conversations with senior leaders across more than 40 organizations. Participants included:

- **Executives from 16 of the top 20 pharmaceutical companies and several emerging pharma including:**

  AMGEN · Genentech, A Member of the Roche Group · Recursion

- **Commercial and ecosystem executives from big tech companies including:**

  aws · NVIDIA · ORACLE

- **Executives from scaled, venture-backed pharma tech companies including:**

  TEMPUS · datavant

- **Two-thirds are C-suite leaders, including:**
  - Chief Information Officers
  - Chief Technology Officers
  - Chief Data Officers
  - Chief AI Officers

"AI should introduce a whole new way of working — a new way of conducting clinical trials, a new way of generating evidence. It's not just a tech play."

— Chris Boone,
VP Oracle Health & Life Sciences

ORACLE

PHARMA'S AI FUTURE WILL BE DEFINED IN THE NEXT 12-24 MONTHS

Pharma's AI adoption has reached a pivotal moment. What began as pilot experimentation is now evolving into enterprise-scale strategy, driven by mounting pressure to boost productivity, accelerate speed to market, and extract value from a surge of multimodal data.

Leading pharma organizations are moving decisively.

Best-in-class players are embedding AI into core workflows, guided by strong C-suite sponsorship and cross-functional governance. These efforts are helping signal innovation to the market, strengthen internal alignment, and attract top talent and partners.

Startups that succeed offer focused value today and platform potential tomorrow.

The most successful startups lead with a high-impact wedge — a use case that delivers fast, measurable ROI — but are architected for scale across the enterprise. They differentiate with proprietary data or deep workflow integration and are fluent in pharma's language: science, compliance, and ROI.

Governance, funding, and decision-making models are evolving.

AI initiatives are increasingly co-owned by data, tech, and business sponsors — replacing siloed ownership. 80% of pharma have formal AI governance structures in place, and funding is increasingly coming from both business units and data/tech teams, as opposed to just business units.

Both pharma leaders and entrepreneurs have a role to play.

The next wave of progress will come from those who align on shared priorities, design glide paths towards enterprise-readiness from day one, and earn trust by delivering value with minimal disruption. Success in this next chapter will hinge on collaboration — not just capability.

Internal capabilities alone may no longer be enough.

Pharma has historically favored building AI solutions in-house — especially at the application and data layers. But nearly half of leaders now expect to balance internal and external efforts, recognizing that internal teams may not move fast enough or have the breadth of capabilities to capture AI's full value.

Investment is concentrated in low-risk, high-efficiency areas — but expectations are rising.

Medical writing exemplifies this trend, with 94% of respondents prioritizing it. Even in these areas, some pharma are turning to best-in-class external vendors or parallel tracking internal deployments with external partners. External solutions are expected to be enterprise-ready, compliant, and seamlessly integrated.

Big Tech and consulting firms play a role in shaping the new landscape.

Companies like AWS, NVIDIA, OpenAI, and BCG are no longer just vendors — they are strategic partners co-developing vertical-specific solutions. Their growing presence raises important questions about how startups can collaborate and differentiate in this shifting ecosystem.

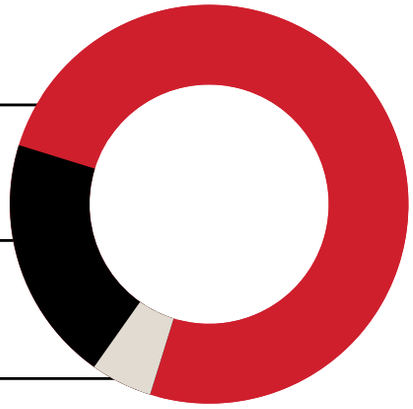
ACCELERATING AI ADOPTION

Many large organizations are emerging from a season of significant budget cuts and now face the reality of doing more with less, making AI a strategic necessity. Ongoing pricing pressure from the Inflation Reduction Act (IRA) and potential future legislation has made speed to market more critical than ever. At the same time, the proliferation of data and analytics tools is creating fertile ground for extracting insights and accelerating decision-making across the enterprise. Layered on top of this is a sharp rise in post-market competition — especially across blockbuster drug classes like GLP-1s — where differentiation hinges on speed, efficiency, and real-world evidence.

Leaders are aligning around clear priorities: 100% of respondents cite reducing administrative burden and improving workforce efficiency while R&D efficiency (80%) and revenue acceleration (75%) closely follow. And while operational impact dominates, 70% continue to invest in new opportunities to enable therapeutic discovery — AI is viewed not only as a tool for efficiency, but also as a potential engine for scientific innovation.

70%

consider AI an immediate priority



25%
somewhat important

5%
somewhat unimportant

100%

of all respondants

said success in AI includes reducing administrative burden and improving workforce efficiencies

80%
Reducing costs associated with therapeutic discovery

75%
Accelerate revenue generating opportunities

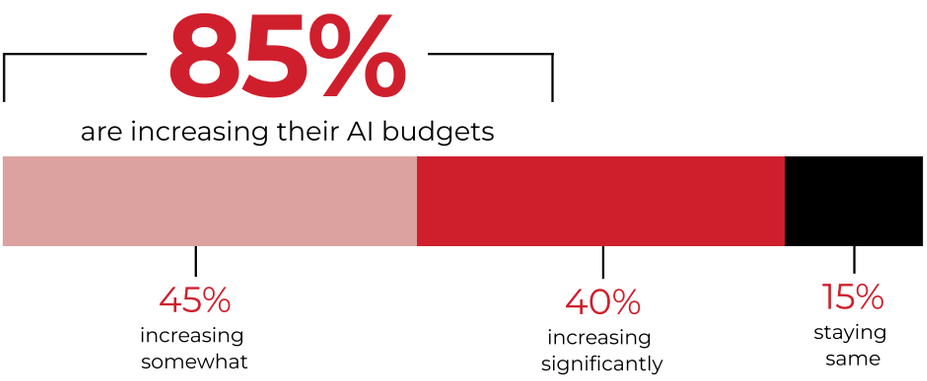
70%
Uncover new opportunities for therapeutic discovery

"We look at A.I. as an effectiveness amplifier, not just as an efficiency play. AI is about making us a more effective and impactful commercial organization so that we can increase access and get more of our life-changing medicines to patients, faster."

— Erik Lundgren, Senior Vice President of the Commercial Portfolio Organization

Genentech
A Member of the Roche Group

This urgency is translating into real investment. Today, 70% of pharma leaders view AI as an immediate priority — **a number that jumps to 85% among the Top 20 pharma companies.** Budget trends reflect this shift with 40% of respondents significantly increasing their AI investments even as overall budgets contract. To further support this evolution, pharma companies are formalizing governance structures, expanding cross-functional AI teams, and making room in their budgets — not just for exploration, but for scale.



"It's not about whether to invest in AI — that's the easy part. What matters is grounding it in first principles, investing where it truly moves the needle, and executing relentlessly. That's what separates bold claims from real impact."

— Najat Khan, Chief R&D and Commercial Officer

Recursion

INSIGHTS FOR PHARMA LEADERS

- **AI adoption starts at the top.**
  When the CEO and senior leadership visibly support and prioritize AI, it sets the tone for engagement across the organization.
- **C-suite sponsorship matters.**
  The most advanced organizations back mandates by empowering dedicated AI champions with executive authority and resources to align teams and drive cross-functional execution.

INSIGHTS FOR FOUNDERS

- **Now is the moment to land strategic partnerships.**
  Many pharma leaders are actively selecting potential long-term AI partners as they shift from exploration to enterprise-scale deployment.
- **Demonstrate clear business value.**
  With budgets consolidating and the cost of developing internal tools decreasing, founders must show attributable impact on productivity, cost reduction, and/or speed to market.
- **Position for scale, not pilots.**
  Although pilots remain a core part of the Big Pharma go-to-market motion, companies are looking beyond experimentation — solutions that align with cross-functional needs will stand out.

BUILD VS BUY IS EVOLVING

Pharma's posture toward partnering more broadly has always been cyclical — swinging between phases of internal capability-building and periods of external collaboration. AI capabilities, in particular, were traditionally built in-house. This "ownership mentality" is reinforced by a desire for customization and cultural pride in internally developed solutions. As one leader put it, "Everything to date was internal... we want to do most of this in-house." Another added, "If it's a black box, it's hard to trust." These comments highlight why external AI adoption demands not only clear performance superiority over in-house solutions but also transparency and compliance.

That said, this mindset is beginning to evolve. While 30% of pharma leaders still plan to primarily build in-house, 40% expect to split efforts between internal development and external partnerships, and 30% are leaning toward external-first strategies. This shift reflects a growing recognition that internal teams alone may not be able to move fast enough or capture the full value AI offers.

40% are planning to evenly split between building in-house and partnering externally

30% are planning to primarily build in-house

30% are planning to primarily partner externally

"No single pharma company has all the data or compute to do it alone. What we're seeing is a shift toward starting with open-source or startup foundational models, then adapting them with internal data to create differentiated value. Some are exploring consortium approaches, but the real traction today is with hybrid models — blending external innovation with proprietary insights.

— Dan Sheeran, GM, Healthcare & Life Science
aws

Structurally, pharma remains inclined to build at the application and data layers, where some capabilities exist. However, we believe this posture is beginning to change, especially as startups demonstrate differentiated value, speed, and flexibility that internal teams can't always match. In contrast, partnering at the compute and foundation model layers is already more common, where scale, specialization, and infrastructure demands make external collaboration both necessary and efficient.

Still, integration remains a sticking point. As one executive noted, moving from pilot to scale often requires senior leaders to step in — not due to lack of technical performance, but because of the internal effort required to support implementation and the potential downstream impact on team structure and budgets.

	100% build internally	**75%** internal, **25%** external	**50%** internal, **50%** external	**25%** internal, **75%** external	**100%** partner externally
Layer 6: Applications	**0**	**45%**	**35%**	**20%**	**0%**
Layer 5: Observability	**5%**	**20%**	**45%**	**25%**	**5%**
Layer 4: Deployment	**5%**	**37%**	**32%**	**21%**	**5%**
Layer 3: Data	**0%**	**60%**	**30%**	**10%**	**0%**
Layer 2: Foundation Models	**5%**	**0%**	**25%**	**55%**	**15%**
Layer 1: Compute	**5%**	**15%**	**10%**	**30%**	**40%**

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"I have to come in over the top for my team to move beyond a succession of AI pilots to committing to a partner for scaled implementation. The hesitation relates to the work required of the team to integrate the new partner into their workflow, and the potential implications to team size and budget if business objectives of the partnership are met."

— Anonymous Pharma Executive

INSIGHTS FOR PHARMA LEADERS

- **Unlock untapped internal value.**
  Pharma organizations, from early R&D to commercial, face structural and technical barriers that prevent them from fully accessing or integrating their own data, whether internally generated or externally licensed. The most innovative pharma in our cohort are making concerted efforts to streamline data pipelines where feasible and have dedicated champions to drive this strategy.
- **Leverage data beyond your walls.**
  No single company has the breadth of data to derive the most meaningful insights in isolation. In therapeutic discovery, development, and commercialization, external partners can add significant value by layering in diverse datasets and modeling techniques that can extract signals from areas internal efforts may overlook.

INSIGHTS FOR AI ENTREPRENEURS

- **Pharma organizations view their data as proprietary IP — core to both their differentiation and defensibility.**
  Expect strong preferences around data ownership, tight access controls, and a bias toward on-premise or tightly governed environments. The most effective AI-native startups are navigating this reality by designing systems that can learn with each deployment, tailoring both internal and external tools to the nuances of each use case.
- **Be prepared for high scrutiny at the application layer.**
  Pharma buyers expect clear differentiation, measurable ROI, and minimal dependency on internal data during the initial stages. Only top-performing partners earn access to internal datasets over time.
- **Build trust through transparency and delivery.**
  Clear scoping, milestone-based delivery models, and proactive expectation-setting are essential to building credibility with risk-averse pharma stakeholders.

ECOSYSTEM SPOTLIGHT

Big Pharma currently shows a stronger preference for building AI capabilities in-house compared to payers and providers, reflecting pharma's greater emphasis on data ownership, IP protection, and internal customization. As digital partnership strategies mature, pharma's level of AI sophistication opens up fertile ground for entrepreneurs.

At the application layer

72%

of **payers and providers** primarily or solely rely on external partners, compared to just 20% in pharma.

At the data layer

28%

of **payers and providers** are primarily building in-house compared to 60% of pharma.

THE STRATEGIC ROLE OF BIG TECH AND CONSULTING FIRMS

Big Tech and consulting firms are playing a central role in pharma's AI transformation — not just as vendors, but as deeply embedded strategic partners. Major consulting firms like McKinsey, BCG, Accenture, and Deloitte are tightly integrated into enterprise-wide AI initiatives, supporting everything from strategy and use case prioritization to deployment and change management. Similarly, NVIDIA, AWS, and OpenAI have all moved up the stack, introducing life-science-specific models and developer platforms that are often co-created with pharma partners.

Cloud providers, in particular, have longstanding customer relationships and are often the first call for broader AI solutioning. Their infrastructure is not only powering data management but increasingly serving as the launchpad for custom workflows, often in collaboration with foundation model developers.

These expanded offerings extend the ecosystem's footprint but also sharpen the imperative for startups to clearly define their differentiation. Pharma tech startups can do this by leveraging specialized data assets, targeting niche workflow automations, or layering unique service capabilities that seamlessly complement hyperscaler platforms.

"As AI adoption deepens in pharma, we're seeing demand not just for raw compute, but for domain-specific tooling and optimized model architectures. Our goal is to support the ecosystem — from large enterprises to startups — with the infrastructure and platforms needed to accelerate development."

— Renee Yao, Director of Ecosystem Business Development
Healthcare & Life Sciences
NVIDIA

INSIGHTS FOR PHARMA LEADERS

- **Evolve governance to enable safe experimentation.**
  In our conversations with Big Tech, governance is often the biggest bottle neck for less innovative pharma companies. Leading organizations are updating oversight structures to test new tools while maintaining compliance and control.
- **Collaborate strategically.**
  Big Tech offers scale, but their investments align with their own business models. Pharma leaders should guide innovation agendas and complement Big Tech with fit-for-purpose partners. Many of these entities recognize their limitations and are actively looking to catalyze startup innovation.

INSIGHTS FOR AI ENTREPRENEURS

- **Track Big Tech movements.**
  Stay informed on the roadmaps of AWS, NVIDIA, OpenAI, and others—your solution may overlap, integrate with, or extend theirs.
- **Differentiate with depth.**
  Winning in pharma requires a clear strategic wedge — whether it's a novel use case, an underserved workflow, or a uniquely positioned data asset. The companies gaining real traction pair that wedge with deep integration into R&D or commercial workflows, domain-specific expertise, and an ability to navigate regulatory and organizational complexity.
- **Leverage channels to scale.**
  When appropriate, use cloud marketplaces and consulting partnerships to accelerate enterprise traction and credibility, while positioning your solution to leverage — not compete with — hyperscaler offerings. Historically, formal partnerships have varied in their value to early stage companies, but nevertheless, it helps to be on the radar of key players in the ecosystem.

AI PARTNERSHIP APPETITE VARIES ACROSS THE VALUE CHAIN

Throughout our conversations we found the build vs. buy vs. partner decision is highly nuanced across pharma functions. While some teams are actively exploring external partnerships, others remain cautious — often driven by the sensitivity of the data involved, the strategic importance of the use case, and ROI skepticism.

Organizational structures differ by enterprise, but for this report we classify pharma into four core functional groups spanning the value chain: early R&D, clinical R&D, commercial & market access, and manufacturing & supply chain. In addition, functions such as business development & licensing (BD&L), medical and regulatory affairs, and real-world evidence (RWE) often operate as cross-functional enablers. These groups influence technology adoption and strategic direction, even though they rarely control dedicated platform budgets.

Early R&D

Leading organizations are reimagining their early R&D operations — compressing years of trial-and-error experimentation into months. They are automating processes like literature review, hypothesis generation, and protein design — streamlining laboratory workflows and building new tech stacks to manage multimodal data. Supercharging benchwork, this model-informed iteration accelerates discovery without replacing scientific rigor. While the promise of AI-enabled therapeutics has yet to deliver a significant wave of new drugs, real near-term ROI can be found by investing in the operational backbone of drug discovery.

Clinical R&D

Clinical R&D presents one of the most compelling opportunities for AI — but also one of the highest bars for external engagement. That's due not only to the proprietary and regulated nature of clinical data, but also to the deeply embedded norms in most clinical development organizations. The (non-exhaustive) use cases included in our survey span site feasibility, study design, trial analytics, patient recruitment, and real world evidence (RWE). As one pharma leader noted, decision-making around clinical trial advancement is high-stakes – even small improvements are deeply consequential but the risk of error makes trust in partners paramount.

Commercial & Market Access

As profit centers, commercial functions are typically more open to partnerships, particularly in areas like competitive intelligence, market access, and KOL management. That said, the threshold for partnership remains high given the role of established technology vendors and agencies.

Manufacturing & Supply Chain

These teams are generally the most risk-averse and are less explicitly focused on AI innovation. Thus far, efforts are primarily oriented toward process optimization and data standardization than transformational AI deployment. That said, the opportunity for innovation in this category remains significant.

"Decision making around clinical trial advancement is a top priority. Everyone is saying if there is a solution that bends the needle even a few percentage points, that's a huge impact."

— Dr. Jared Saul, Chief Medical Officer

aws

INSIGHTS FOR PHARMA LEADERS

- **Focus AI investment where ROI is real today.**
  While AI-enabled therapeutics remain a goal for many and should continue to be a priority, early R&D leaders derive real near-term value in streamlining operational use cases (e.g., literature review and lab automation). Get 'quick wins' while investing in the long term.
- **Match partnership strategies to function-specific risk.**
  Clinical and manufacturing functions require tighter control, while commercial teams may be more open to collaboration. Calibrate cultural transformation efforts and build vs. buy decisions accordingly.
- **Scale through cross-functional leadership.**
  The most innovative pharma organizations are elevating AI champions who can connect wins across R&D, clinical, and commercial to drive broader adoption.

INSIGHTS FOR AI ENTREPRENEURS

- **Understand data sensitivities.**
  Even when the upside is significant, recognize that functions like clinical development require a higher bar for trust, explainability, and regulatory alignment. Be transparent and trustworthy. Black-box solutions won't cut it in high-stakes areas; even in tech-enabled service models, which are common in pharma, founders should bring rigor and demonstrated credibility (e.g., published papers, case studies) to conversations with their buyers.
- **Prove value before asking for access.**
  Many functions expect external solutions to deliver results without immediate access to internal data. The right to deeper integration must be earned.
- **Design for ease of integration.**
  The internal lift required to support a partnership is often a barrier. Minimizing workflow disruption and proving low-friction implementation builds confidence.

PHARMA'S AI PARTNERSHIPS ARE EXPANDING — BUT STILL SELECTIVE

Organizations are actively piloting AI across the value chain, but adoption remains deliberate and highly performance-driven. Among the Top 20 pharma companies we surveyed, most are now in more advanced phases of adoption — what we define as "V2" and "V3" stages — than their payer and provider counterparts, reflecting a shift from experimentation to selective scaling. Yet even at this stage, AI investment is still largely concentrated in low-risk, high-efficiency areas where the ROI is both measurable and immediate.

"The biggest miss I see from vendors is talking about what they do before understanding what pharma needs. If you're doing anything that's AI or digitally related, it needs to be linked to a core business strategy or problem. They may give you the money initially, but six months or a year later, it gets deprioritized and ultimately shelved."

Chris Boone, VP Oracle Health & Life Sciences

ORACLE

V1
LAY THE GROUNDWORK

- Establish AI governance body
- Establish early data, security, and partner policies
- Identify initial use cases
- Conduct initial pilots with external partners

V2
TEST & ITERATE

- Expand and prioritize use cases
- Expand relationships with external partners
- Broaden ethics, safety, and data requirements
- Establish initial ROI metrics

V3
ALL-IN

- Generate interdepartmental collaboration and coordination
- Establish longer-term priorities, KPIs, and ROI metrics
- Establish dedicated AI budget
- Dedicated effort to upskill workforce

Medical writing exemplifies this trend. An overwhelming 94% of respondents identified it as a top AI priority for the next year, reflecting a clear appetite for automation in areas with minimal regulatory or reputational risk. These types of "low-hanging fruit" use cases, as described in our conversations, are where many organizations begin. But even here, pharma is moving toward engaging best-in-class external vendors rather than building every capability internally.

At the same time, leading organizations are laying the internal foundation to scale AI responsibly and consistently. One executive shared their organization had created an internal knowledge management platform as a single portal for everything AI to provide a collaborative learning experience from registered use cases, success stories, RAI framework, learning journeys and communities of practice. They also created AI labs to enable experimentation at scale to responsibly empower users to learn and proto-type. This kind of infrastructure reflects a growing maturity across top pharma companies: a shift toward structured experimentation, institutional knowledge-sharing, and operational readiness for enterprise-wide adoption.

"A no-risk pilot rarely leads anywhere. You need some skin in the game — time, money, or both — and access to someone with buying power. You need champions who pull it up the chain, and executives who reinforce it. Otherwise, even a successful pilot can fizzle out"

— Ryan Fukushima, COO

TEMPUS

Current use cases

85% **have leveraged AI for analyzing real-world data**

85% for medical writing
75% for site feasibility and selection
70% for target discovery
60% for competitive intelligence
60% for clinical research and study design
60% for clinical trial analytics
55% for protein design and ADMET research
55% for market access and commercialization
45% for patient recruitment
40% for supply chain
30% for KOL identification and management

Future use cases

94% **are prioritizing medical writing for an AI use case in the next year**

73% for target discovery
72% for clinical research and study design
67% for patient recruitment
67% for analyzing real-world data
67% for market access and commercialization
61% for clinical trial analytics
56% for site feasibility and selection
50% for competitive intelligence
50% for protein design and ADMET research
39% for supply chain
39% for KOL identification and management

That said, the partnership model is evolving and maturing. Looking ahead, **56% plan to partner on strong, specific use cases, suggesting a hybrid approach that balances wedge use case depth with flexibility. Meanwhile 44% of pharma leaders say they plan to partner with select vendors that support multiple use cases, signaling a growing preference for solutions that can scale horizontally across the organization.** Importantly, these aren't experimental collaborations — Big Pharma is willing to partner, but only with vendors who demonstrate enterprise readiness, tangible ROI, and a deep understanding of the stakes.

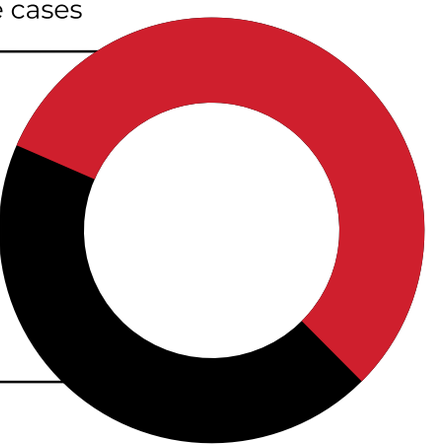
OVER THE NEXT TWO YEARS

56%

said they plan to partner with select vendors with strong use cases

44%

said they plan to partner with select vendors that support multiple use cases.



80% **said data access and ownership is a top criteria when evaluating partners**

- **55%** said data security, privacy, compliance
- **35%** demonstrated ROI for chosen use case
- **35%** for workflow integration
- **30%** management team's domain expertise and/or experience with other pharma companies
- **25%** said traceability and auditability of the platform
- **20%** management team's domain expertise in AI
- **15%** includes human-in-the-loop
- **5%** time in market

Partner selection is guided by a set of non-negotiable criteria. Data access and ownership were cited by 80% of respondents as a top consideration, followed by security, privacy, and compliance (55%). Proven ROI for the target use case (35%) and seamless workflow integration (35%) were also key, reinforcing the message that solutions must not only perform, but fit smoothly into highly structured environments.

40%

said they had a neutral experience with external partners

35% said they had a somewhat positive experience

20% said they didn't have enough experience with external partners

5% said they had a somewhat negative experience

89%

of those who had a neutral or negative experience with external partners said vendors overpromised and underdelivered

67% said there were workflow and technology integration issues

44% said there were challenges with data usage and cybersecurity

22% said inadequate governance or trust in the models

Despite the growing openness to partner, satisfaction with external vendors has been mixed. Only 35% of respondents described their experience as somewhat positive, while 40% reported neutral outcomes, and 5% had somewhat negative experiences. 20% said they haven't yet had enough experience with external AI vendors to draw firm conclusions. Among those with neutral or negative experiences, 89% cited overpromising and underdelivering while 67% pointed to workflow and integration issues.

As one executive reflected, "We're happy to be fast followers. It's too expensive, too many unknowns — we'd rather watch and see what the big players do, and be super nimble when it's time to act." This sentiment underscores a key challenge: pharma's biggest AI hurdle isn't technical, it's business-oriented. Without clear ROI, robust data handling, and minimal disruption to existing teams, even the most capable models can stall at the pilot stage.

"If you want to earn long-term adoption in pharma, proving ROI early is non-negotiable. That means identifying the metrics your champion is accountable for and aligning on clear outcomes — not a year out, but within the first 3 to 6 months. It's not about checking the pilot box; it's about demonstrating that you can drive real, repeatable value on what matters most."

— Arnaub Chatterjee, President

datavant

INSIGHTS FOR PHARMA LEADERS

- **Enable partners for success.**
  Assess whether your internal infrastructure, processes, and teams are set up to support external partnerships and help vendors deliver ROI.
- **Define success early.**
  Establish clear ROI metrics and accountability frameworks from the outset of every AI initiative to ensure measurable impact.
- **Invest in platform-minded partners.**
  Prioritize vendors with the potential to grow beyond point solutions into scalable platforms that can serve multiple functions over time.

INSIGHTS FOR AI ENTREPRENEURS

- **Meet your buyers where they are.**
  Understand where each prospective partner sits on the AI adoption curve to tailor your approach and expectations.
- **Start focused, scale smart.**
  Pharma buyers want best-in-class solutions, but also value long-term platform potential. Lead with a sharp wedge, then expand.
- **Stay ahead of the curve.**
  As many pharma organizations are still building their internal AI frameworks, you must proactively define and articulate ROI to build confidence.
- **Minimize friction.**
  The more seamlessly your solution integrates into existing systems and workflows, the faster adoption and expansion can happen.

ECOSYSTEM SPOTLIGHT

Payers and providers, like pharma, are focused on low-risk, high-efficiency use cases, with top priorities including ambient scribing (83% of providers) and call center optimization (68% of payers). However, partner evaluation criteria vary: pharma places the greatest emphasis on data access and ownership (80%), while payers prioritize security and compliance (86%) and providers focus most on demonstrated ROI (45%). These differences reflect each sector's distinct regulatory pressures and operational structures.

While pharma is further along in AI development and integration, making interoperability or integration-light value delivery critical for vendors, ROI remains a universal expectation. ROI is typically realized only once trust in data governance and platform security has been established. Experiences with vendors are also comparable, with 35% of pharma leaders and 39% of payers/providers reporting somewhat positive results, and shared dissatisfaction rooted in overpromising and underdelivery.

GOVERNANCE AND BUDGET MODELS ARE EVOLVING TO SUPPORT ENTERPRISE AI

As AI adoption matures, pharma organizations are shifting from fragmented, department-led efforts toward more centralized, enterprise-wide strategies. Funding is now coming from both business units and data/tech organizations with 75% of respondents citing each as a source.

Decision-making is evolving in parallel. Data and tech leaders now co-own AI initiatives alongside business sponsors, replacing the era when departments operated independently. As one leader noted, “the days of departments going off and doing what they want are over.” This shift is supported by formal governance structures: 80% of organizations have AI governance committees (with another 20% in progress), prioritizing ethics, use case alignment, and data policies.

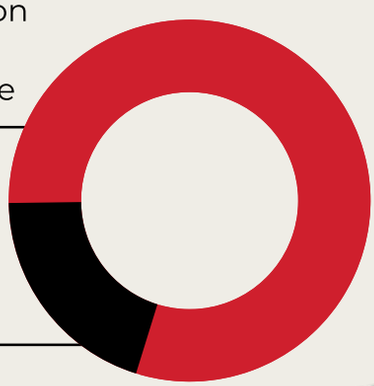
75% said AI funding comes from business unit budgets

75% said AI funding comes from the tech or data budgets

20% said AI funding comes from innovation budgets

80%

said their organization has created a governance structure



20%

said they’re in the process of establishing a governance structure

“We have created an Enterprise AI Council to oversee the acceleration, adoption, policies, ROI and responsible use of AI. This includes the prioritization and ranking of use cases.”

— Anonymous Pharma Executive

Still, while governance structures are an important marker of organizational maturity, their effectiveness varies. In our conversations, some executives described well-developed governance frameworks with dedicated councils, internal knowledge platforms, and centralized model registries. These frameworks were built to accelerate adoption, track ROI, and foster responsible experimentation. Others expressed skepticism, noting that while the right committees are in place, many still lack the authority, resources, or visibility to meaningfully influence enterprise priorities.

Together, these changes reflect pharma's effort to build the internal scaffolding for scaled AI deployment. How well that scaffolding holds will depend on continued alignment, oversight, and execution.

80%

said ethics and safety is one of the goals of their organization's governance structure

75% said identifying and prioritizing AI use cases

75% said setting up data policies and establishing vendor guidelines

55% said interdepartmental collaboration

35% said evaluating potential vendors and solutions

30% said determining or finding budget for AI initiatives

INSIGHTS FOR PHARMA LEADERS

- **Make governance value-oriented, not just risk-oriented.**
  Effective AI governance should do more than manage risk — it should drive cross-functional alignment and accelerate value realization across the organization.
- **Lead with data integrity.**
  When evaluating external partners, prioritize those with robust data governance, integration capabilities, and clear policies around access and ownership.

INSIGHTS FOR AI ENTREPRENEURS

- **Understand how pharma buys.**
  AI purchasing decisions in pharma are often matrixed, involving, business unit, technology, data science, and therapeutic area / brand leaders. Tailor your sales strategy to reflect this complexity.
- **Build trust through responsible AI.**
  Ethics, compliance, and data security are non-negotiable. Proactively highlight your responsible AI practices and governance safeguards in every interaction.

ECOSYSTEM SPOTLIGHT

Pharma is slightly ahead of payers and providers in establishing AI governance committees. However, these formal structures share similar priorities — focused on responsible use, data policies, and use case alignment. Pharma's funding model also demonstrates greater organizational maturity.

73%

Compared to 80% of pharma organizations have established governance committees

60%

Compared to 20% in pharma companies

BUILDING THE FUTURE OF PHARMA, TOGETHER

We fundamentally believe that AI is accelerating **the next wave of transformational health and pharma tech companies**. Many of the the largest exits in our space to date (e.g., Veeva, Medidata, Doximity) predominantly sell into pharma, and the scale achieved by "Wave 2" companies like Tempus AI, Datavant, and others, make us bullish on the third generation of AI-enabled companies in the category..

At Define Ventures, we're proud to partner with founders building compelling technology with the commercial potential to scale within pharma's complex ecosystem. This is paired with our focus on building deep and trusted partnerships with decision-makers in the pharma sector. **Whether you're a founder building for the pharma enterprise or an executive looking to modernize it, we'd love to connect and learn how we can help bring real-world innovation to market.**

Please get in touch by emailing Chuka Esiobu, **chuka@definevc.com**

METHODOLOGY

Data and responses in this report were drawn from in-depth surveys and conversations with more than 40 pharma and big tech executives from 1/31/25-7/9/25.

ABOUT DEFINE VENTURES

Define Ventures is one of the largest venture capital firms focused on early-stage health tech companies with $800 million AUM. We take a high conviction approach in partnering with companies at the earliest stages.

We believe the future of healthcare will be defined who bring together a deep understanding of the healthcare ecosystem paired with a technology-driven mindset and principled approach. Our team was built in this vision, bringing together founders and investors who built category-defining companies and delivered $23 billion in exit value, including Livongo (NYSE: LVGO), Evolent (NYSE: EVH), and Hims & Hers (NYSE: HIMS).

Our founders, strategic partners, and LPs choose to partner with us because we pull the full weight of our network and expertise to play offense and drive results. We're strongly rooted in our values, taking a principled approach to building impactful, category-defining companies while holding ourselves to the same standards.

Learn more about Define Ventures at www.definevc.com