

The Next Era of Patient-Centric Pharma is Powered by AI

From Fragmented Services to Intelligent, Connected
Care Systems



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Executive Summary

Therapies are more complex, patients are more empowered, and the cost of losing a patient to non-adherence has never been higher. In specialty medicine, acquiring a new patient costs six times more than retaining one. Patient-centricity has moved from aspiration to commercial imperative, and the ability to engage patients meaningfully across their full therapy journey is now a direct driver of commercial outcomes, not a support function adjacent to them.

Pharma companies have recognised this and invested accordingly, spending over five billion dollars annually on patient support infrastructure. Yet meaningful engagement sits at three percent. The reason is structural. Programmes have been built to solve one problem in isolation: financial assistance here, adherence support there, onboarding managed separately from navigation. No single layer owns the full patient journey, no system connects the signals across it, and no intervention reaches the patient before the drop-off has already begun. The investment is real. The architecture to make it work is not.

In our work with life sciences clients across the engagement spectrum, a consistent pattern emerges. Most pharma companies have been benchmarking against peers navigating similar challenges through the same fragmented infrastructure, the same siloed services, and the same reactive adherence models. So it is time they look outside pharma to look for success stories.

This whitepaper looks beyond pharma to understand what is needed to build an end to end patient engagement platform centered around patient journey. At its core is a simple but powerful idea: AI is no longer just supporting patient programs—it is making it possible to design them in an entirely new way.

What this shift demands is not incremental improvement, but a fundamentally different architecture that treats patient engagement as a continuous, intelligence-driven system rather than a set of disconnected programs. AI makes this possible by acting as the coordinating layer across the entire patient journey, bringing together fragmented signals, enabling real-time decisioning, and orchestrating interventions before drop-offs occur rather than after. It allows engagement to move from reactive to predictive, from episodic to always-on, and from program-centric to truly patient-centric. In doing so, it does more than improve adherence. It creates a feedback loop that continuously learns where value is created or lost across the therapy lifecycle, turning patient engagement into a source of strategic insight and competitive advantage rather than just operational spend.



Patient-Centricity Is Redefining Healthcare

Structural shifts are rewriting patient
engagement

Six Structural Shifts Rewriting Pharma Engagement

Patient-centric healthcare is more than just the result of changing patient expectations. It is being driven by a set of deeper structural changes that are transforming how therapies are developed, delivered, and experienced.

For decades, pharmaceutical companies operated within a relatively stable commercialization model. Physicians served as the primary decision-makers, pharmacies handled fulfillment, insurers controlled access, and pharmaceutical companies focused largely on product development and physician engagement. Patient interaction was limited and largely mediated through healthcare providers.

That model is now breaking down. Several structural forces are reshaping the industry simultaneously, forcing pharmaceutical companies to rethink how they engage with patients.

Generalized Medicine	Monotherapy	HCP-Driven Decisions	PBM-Mediated Access	Stringent Regulations	Volume Economics
▼	▼	▼	▼	▼	▼
Precision & Personalized	Complex, Multimodal	Patient-Empowered	Digital Front Doors	Policy Tailwinds	Retention Economics
75%	64%	70%	33	79%	6×
of pipeline is specialty therapies ¹	of hypertension patients go through combination therapy ²	of patients see themselves as joint decision-makers ³	PBM reform bills passed in 2024 alone ⁴	Medicare price reduction on first 10 negotiated drugs ⁵	cost to acquire vs. retain a specialty patient ⁶
Biologics, gene therapies, and targeted immunologics now dominate. Treatments are tailored to specific genetic and molecular profiles rather than broad populations.	Treatments are more than just pills. Complex therapies demand specialized administration, companion diagnostics, long-term care, raising coordination burden dramatically.	Patients, especially younger cohorts, are actively advocating for specific treatments. The era of the passive patient is over.	Telehealth, DTC platforms, and manufacturer-led programs are creating direct pathways to diagnosis, prescription, and fulfillment.	The Consolidated Appropriations Act mandates 100% rebate pass-through by 2028, fundamentally altering intermediary economics.	More than half of specialty patients abandon therapy within 12 months. Each represents hundreds of thousands in lost annual revenue.

Fragmentation Is Eroding Value

DTP adoption is near-universal, but real integration is rare



Siloed investments are breaking the Engagement Experience

\$5B+

spent annually on patient support programs⁷

3%

of patients actively use available programs⁸

1 in 10

of the pharma companies have digital pharmacy fulfilment capability

Pharma companies are investing a huge amount into patient engagement & support. However, despite this substantial investment the utilization and impact remain painfully low.

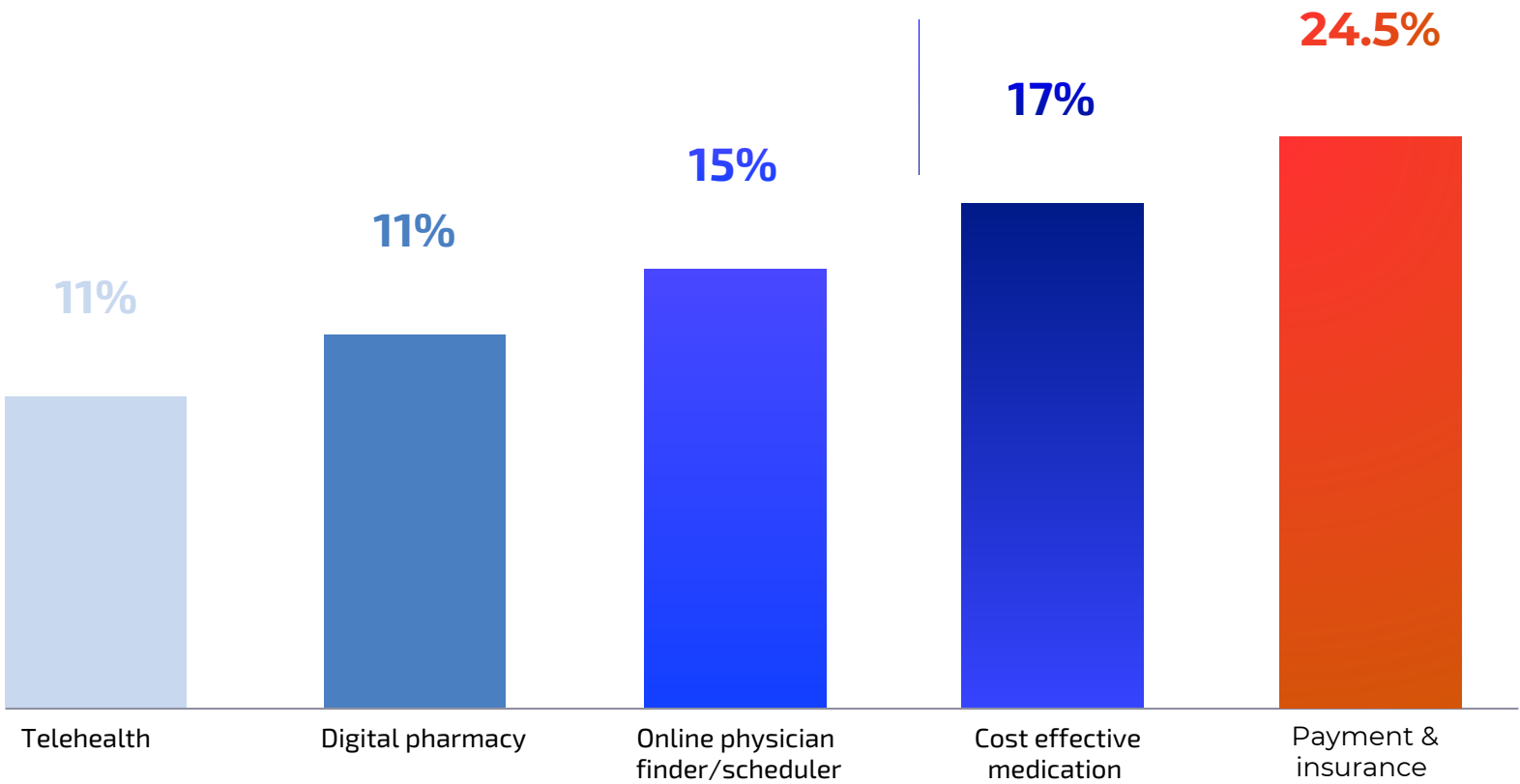
It highlights a significant gap between the resources invested and the value delivered to patients. The programs, while a step in the right direction, solve parts not the whole. Most of them are isolated interventions, focused on specific activities rather than the full patient journey. A quarter of them, primarily emphasize financial assistance like insurance and payment support, over broader care coordination. And less than 1 in 5 companies offer savings on medications and digital doctor-finder tools. Only 1 in 10 have integrated digital pharmacy fulfillment, leaving majority of the patients managing speciality pharmacy coordination on their own.

In essence, the investments have largely gone into point solutions rather than a cohesive system. Each initiative addresses a specific need, but the lack of integration means information remains scattered, coordination across stakeholders is uneven, and patients are still left to piece together their own care journeys.

More than half of the pharma companies surveyed are planning to launch direct-to-patient support programs in the next 12 months or are exploring the shift. But the key question still remains:

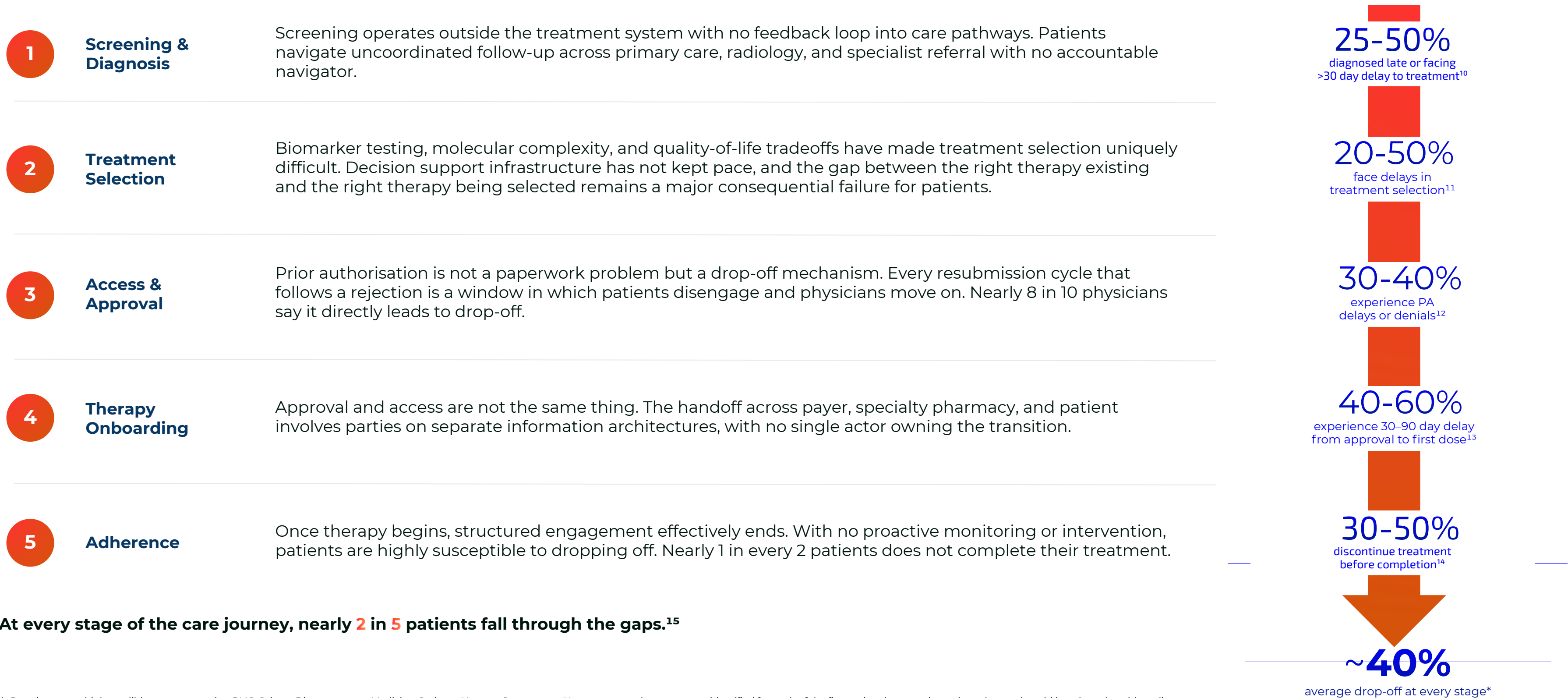
Will these investments converge into a unified system that supports patients end-to-end—or remain fragmented initiatives fixing parts while leaving the whole broken?

Core offerings by Pharma players



Source: 2025 Ixlayer survey: DTP Trends in Pharma⁹

Illustration: How fragmentation leads to broken cancer care



*- Drawing on multiple credible sources covering PMC, ScienceDirect, e cancer, Medicine, Springer Nature , Cancer care, Nature etc., a value range was identified for each of the five patient journey phases based on real-world benchmarks, with outliers excluded. Phase-level estimates were calculated as range midpoints, and the overall ~40% drop-off represents a simple average across all five phases.

The cost of getting it wrong is borne in lives and revenue

Patients pay the price in health outcomes. Pharma pays it in lost adherence, missed starts, and unrealized value. And the two are more connected than most commercial teams are willing to acknowledge.

COST TO PATIENTS



~350M per yr
Globally undiagnosed Patients²²



~125K per yr
Loss of lives due to non adherence²³

Fragmented information

Incorrect and incomplete patient information on file, creating errors that delay benefit verification before treatment even begins.

Deeper financial burden

Patients skip doses or delay refills due to out-of-pocket costs, quietly exploring cheaper alternatives while their condition progresses.

A disconnected care experience

42% of patients report poor care coordination¹⁶; a third have never met a formal care coordinator.

Social and emotional barriers

Fear of side effects routinely goes unaddressed without single proactive conversation from their care team. Trust and privacy issues persist.

Poor accessibility

80% abandon health apps within thirty days due to complex interfaces¹⁷, low awareness, and absent guidance.

COST TO PHARMA



6X
New patient acquisition cost²⁴



\$47 B
Revenue Risk per yr²⁵

Low patient start rates

Even patients who reach the pharmacy often do not begin treatment with 96 million prescriptions abandoned in 2025 alone¹⁸.

Underutilised support programs

Huge ROI gap between investment and spend. More than \$5 billion spent annually on infrastructure that 59% of patients don't know exists and only 3% ever use¹⁹.

Early drop-offs in therapy

Drop-offs become a compounding liability, representing acquisition cost already spent and lifetime value permanently surrendered.

Low-impact engagement

80% of pharma omnichannel strategies fall short of delivering impact because of missing connecting intelligence²⁰.

Cost of brand switching

78% patients would switch manufacturers for better support²¹. In specialty medicine, that loss compounds for weeks. Leads to sunk acquisition and program costs with no returns.

The lessons lie beyond Pharma

Players outside Pharma are moving faster
toward integrated, AI-native models



Several adjacent players are leading the way

Big Pharma players, Lilly and Pfizer have made the most deliberate moves toward direct patient relationships among pharma manufacturers. LillyDirect connects patients with independent telehealth providers, provides home delivery of select medicines, and financial assistance. The building blocks of end-to-end engagement are all there but organised around Lilly's portfolio rather than the patient's care journey. Similarly, PfizerForAll navigates patients to care, prescriptions, and savings through a network of independent partners. But it is predominantly an access layer, not a continuous care system.



THE STRUCTURAL LIMIT: Both have built product-out models, organised around each company's product portfolio, without connecting the care journey end-to-end.

Adjacent players show what's possible

CVS

By 2020, CVS Health had acquired the essential components of the care continuum: Aetna (payer), Oak Street Health (provider), Caremark (PBM), and CVS Pharmacy (fulfillment). However, these assets operated independently, leaving patients to navigate the gaps between them. CVS recognized this gap and has worked towards building a unified digital architecture. In March 2026, CVS launched Health100, an AI-native engagement platform designed to integrate these silos into a single ecosystem.

The patient continuum architecture is built with AI:

- **Data Interoperability:** Built on Google Cloud's Healthcare API and BigQuery, the platform aggregates clinical and transactional data into a real-time, longitudinal patient view.
- **Multimodal AI:** Gemini models, specialized for healthcare, analyze clinical records and cost data simultaneously to identify optimal care paths.
- **Autonomous Orchestration:** Agentic AI acts on these signals to automate interventions, removing the coordination burden from the consumer.

The result: An open infrastructure that any insurer, pharmacy, or provider can connect into, with future biometric wearable integration enabling real-time health monitoring at scale.

hims & hers

Hims & Hers entered as a DTC telehealth brand, but built its competitive advantage on a durable foundation. They converted every clinical encounter into a data asset that makes the next recommendation more precise. Every interaction — teleconsult, prescription, fulfilment, follow-up, feeds into a **proprietary EMR** that carries the patient's full history across every touchpoint.

MedMatch, their AI system trained on millions of anonymised clinical visits and outcomes, surfaces treatment recommendations including formulation, dosage, titration, based on what has worked for similar patients across the platform. **An AI-driven routing system** then directs every patient inbound to the right professional automatically, reducing average wait times. For example, in Weight Loss the wait time has been reduced by over 40%²⁶. Every new subscriber adds data. The model becomes more precise with scale. That translates directly into **personalization across the most critical points** of the care journey. Hims and Hers report that 90 percent of GLP-1 customers are satisfied with their personalised dosing plan and 87 percent are progressing toward their weight loss goal²⁷. Every interaction that produces those outcomes generates new data. The model improves. The next patient benefits from every patient who came before.

The Impact: They have been able to achieve **50% YoY growth in subscribers on personalised solutions**²⁸. They have over **2.5 mn** active subscribers, growing **13% YoY**²⁹. Their target is to reach **100 mn** in the long-term³⁰.

CVS enables system-centric orchestration. Hims & Hers built a consumer-centric access layer. While both have fundamentally different models of owning the patient journey, the result is the same: end-to-end ownership of the patient journey

AI Is Redefining Patient Engagement

Seamless, end-to-end engagement across
the entire care continuum

With Agentic AI, pharma can finally own the patient journey end-to-end

The answer is not more programs, but a new operating layer. Agentic AI enables a connected system that continuously orchestrates patient engagement—detecting risk, triggering interventions, and coordinating actions across channels to ensure no patient falls through the cracks.

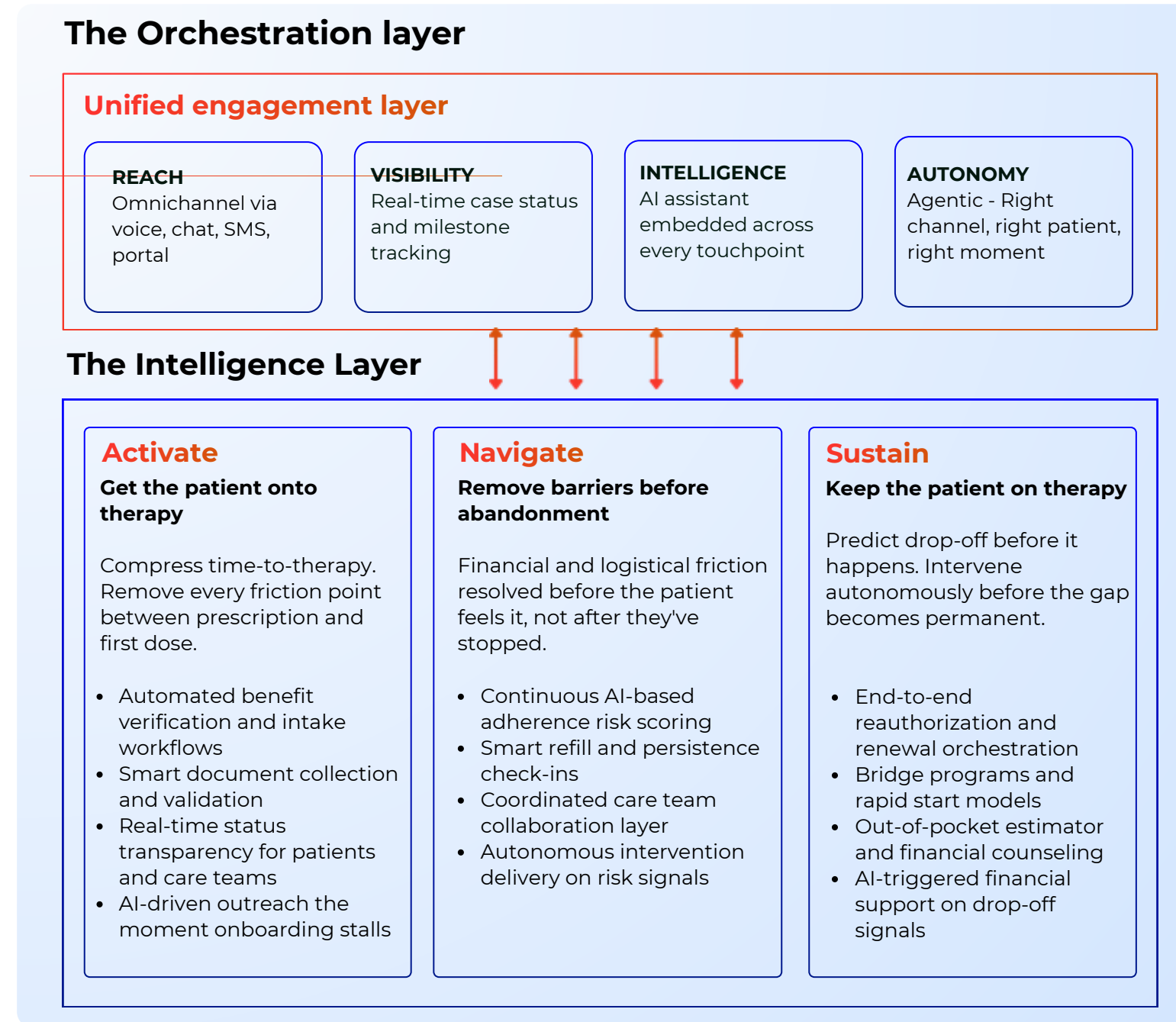
Patients need access to a unified layer that acts as an orchestration engine, connecting them to care teams, and delivers consistent, AI-driven support across every channel. This way no signal goes unnoticed and no patient falls through a gap between systems.

This connected layer does three things: activate the patient onto therapy, sustain them through it, and navigate every barrier that might end it. Continuously. Autonomously. In sequence.

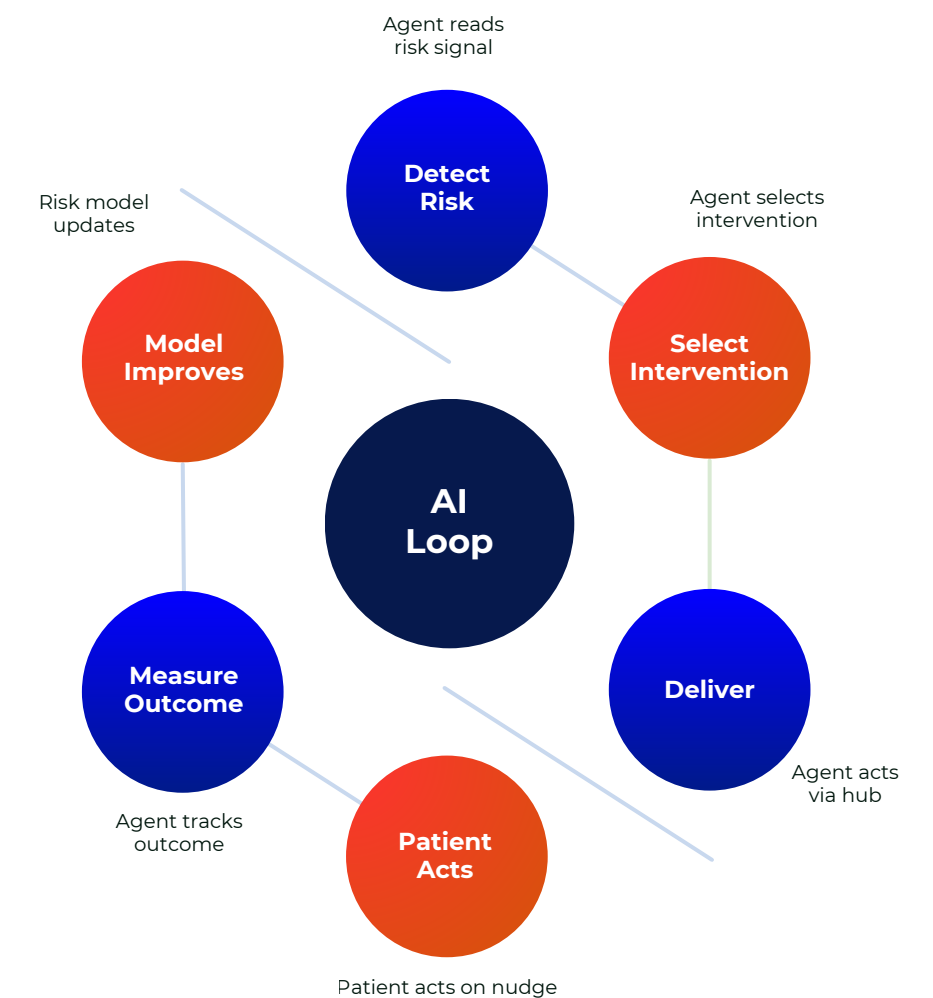
Activate: The first job is getting the patient onto therapy. AI automates intake, validates documents, surfaces status in real time, and reaches out the moment onboarding stalls. Time-to-therapy compresses. Drop-off before day one disappears.

Navigate: Financial and logistical barriers are the silent killer of therapy persistence. AI orchestrates end-to-end reauthorization, surfaces bridge programs before the gap opens, and triggers financial support the moment a drop-off risk signal appears.

Sustain: The harder job is keeping patients on therapy. AI scores that risk continuously, triggers smart check-ins, coordinates with the care team, and selects and delivers the right intervention autonomously. The patient never has to ask for help. The system finds them first.



THE RESULT: A CONTINUOUSLY LEARNING, SELF IMPROVING CLOSED LOOP



Every intervention the agent delivers, every patient action that follows, every outcome, feeds back into the risk model. The system gets smarter with every cycle. This is not a static program. It is a learning engine.

Three critical capability shifts to operationalize the engagement model

Building this model requires three critical capability shifts that pharma does not yet have in place.

01 Unified Data Ecosystem Layer

From Fragmented Data to Unified Source of Truth

Everything begins with data. Pharma needs a unified patient data ecosystem that consolidates demographics, interactions, prescriptions, consent, copay behaviour, and clinical signals into a single real-time layer — capable of ingesting wearable and biometric signals directly into risk models. A bi-directional integration architecture makes the patient's complete interaction history available at every decision point. Every signal that touches the patient flows in. Every decision that affects the patient flows out.

02 AI Intelligence & Analytics Layer

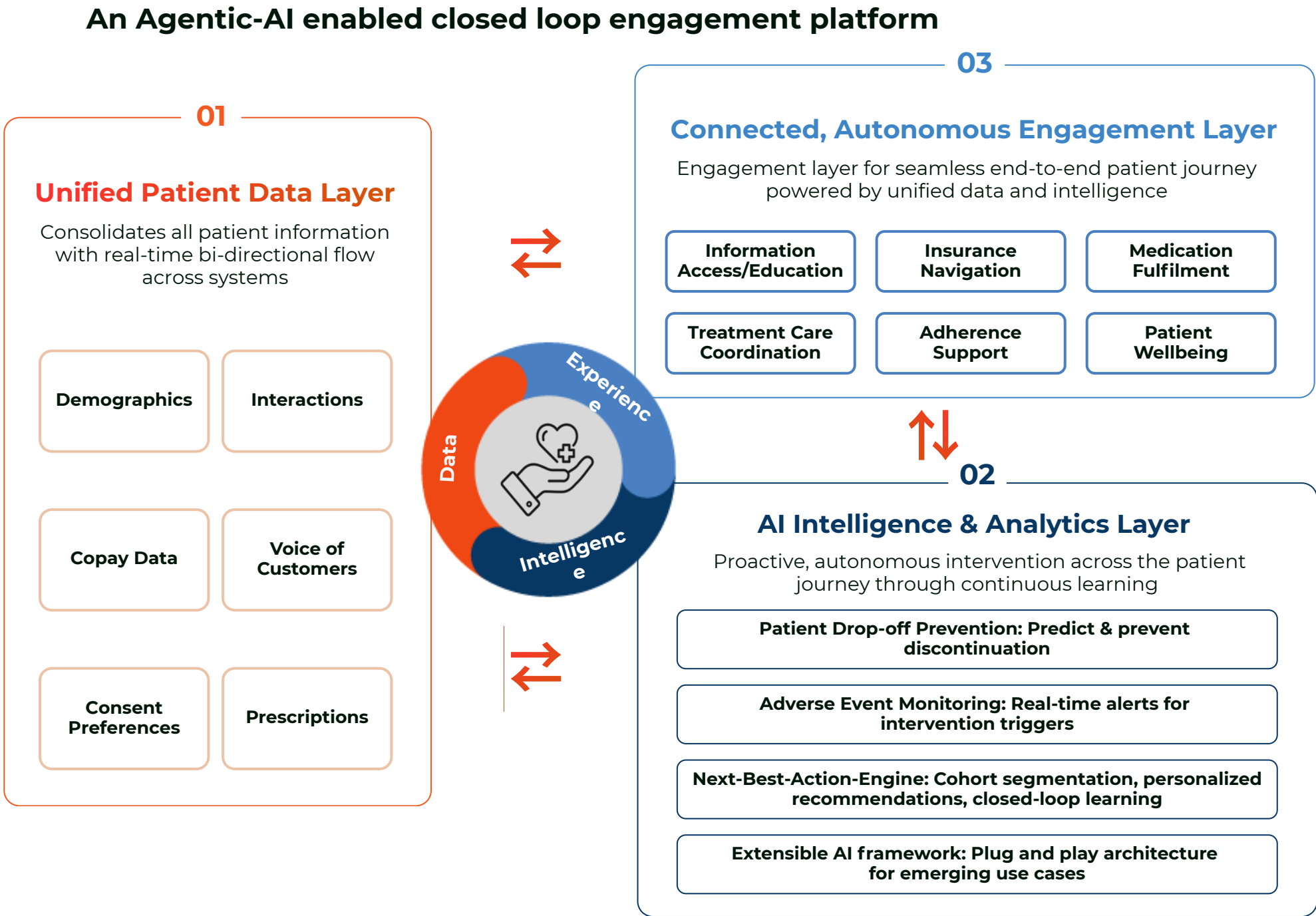
From Population Level Reporting to Patient-Level Prediction

The intelligence layer operates at the individual patient level, not the cohort level. A continuous risk scoring engine identifies each patient's likelihood of drop-off, the most probable reason, and the intervention most likely to work at that point in their journey. A next-best-action engine segments dynamically, generates personalised recommendations, and updates its model with every interaction. Every action the patient takes makes the next decision more precise. This is not a reporting layer. It is a predictive, self-improving system that gets smarter with every patient it touches.

03 Connected, Autonomous Engagement Layer

From Manual Handoffs to Autonomous, Connected Orchestration

The connected engagement layer spans the full journey, from information access and education at initiation, through adherence support, to long-term patient wellbeing. It is run as a single connected system through agentic orchestration. Activate, Navigate, and Sustain are not separate programmes. They are orchestrated touchpoints connected by the data and intelligence layers beneath them, ensuring the right intervention reaches the right patient through the right channel at the right moment, without human routing at every step.



Incedo has recently built an agentic patient engagement architecture for a leading Global BioPharma company

Incedo built an AI-Driven, Direct-to-Patient Engagement system

A Top 5 Global BioPharma | Specialty Therapy Patient Engagement

Our client faced a critical inflection point in patient support. Despite investing in multiple specialty therapy programs, the patient experience remained deeply fragmented. Patients navigating complex therapies were moving across disconnected touchpoints with no unified view of their journey. Onboarding was manual and slow, adherence programs were reactive by design, and financial navigation varied inconsistently across therapy areas, leaving patients without the seamless support they needed to stay on treatment.

How Incedo Solved It: Incedo designed and delivered an AI-native, direct-to-patient engagement ecosystem built on the three integrated layers.

Foundational Patient Data Vault: The foundation unified patient data and signals across demographics, consents, preferences, access, copay, and clinical touchpoints into a single, governed layer, enabling real-time personalization and consistent decision-making across every interaction.

Patient CareConnect: Built on top of this foundation, CareConnect delivered intelligent onboarding with omnichannel access updates, real-time progress tracking, and AI-embedded nudges to guide patients through enrollment. Proactive therapy adherence monitoring used predictive signals to identify at-risk behavior early, triggering agentic engagement workflows before patients fell off therapy. Adaptive financial navigation brought agentic PA and appeal processing, personalized starter and bridge programs, and digital copay assistance into a single, seamless flow.

Modular AI-Native Architecture: The platform was built around a multi-channel digital front door supporting all patient journeys — from first prescription through long-term adherence. Modular "legos" adaptable to specific therapy needs replaced the rigidity of point solutions, letting each therapy area draw from a shared foundation without sacrificing specialization. Together, these components form an AI-native digital ecosystem enabling personalization at scale across the full portfolio.

Business Impact: Incedo's solution drove measurable outcomes across the patient journey. Time-to-therapy was significantly reduced by consolidating onboarding, benefit verification, and PA processing into a single digital flow. Patient retention improved through proactive, AI-driven adherence monitoring that enabled early intervention on at-risk signals before they became drop-offs. And for the first time, the client was able to scale personalized support consistently across multiple therapy areas — replacing a patchwork of point solutions with a platform built to grow with the portfolio.



Toward an Intelligent, Patient-Centric Pharma System

Pharma is uniquely positioned to own the patient relationship end to end. It has the clinical depth, the therapy expertise, and the data. At every touchpoint across the patient journey, pharma has built some form of support infrastructure. The pieces exist. What has not been built is the architecture that connects them into a single, continuous view of the patient from diagnosis through long-term therapy management.

That gap is not just an engagement failure. It is a value creation gap that compounds with every patient lost. Each patient who abandons therapy represents more than a revenue loss. It represents the permanent loss of longitudinal data that would have informed the next generation of therapy design, patient stratification, and commercial strategy. In a world where precision medicine depends on understanding how real patients respond to complex therapies over time, an incomplete patient journey is not just a commercial miss. It is a strategic one.

The commercial case for redesign is measurable. Adherence improvement converts directly into revenue recovery. Faster time-to-therapy closes the gap between approval and first dose. Proactive intervention reduces the cost of re-engaging patients who have already disengaged. But the deeper case is about value creation, not just value recovery. A connected, AI-native patient engagement architecture retains patients and generates the longitudinal intelligence that tells pharma which patients benefit most, under what conditions, and at what points in the journey the therapy's value is made or lost. That intelligence feeds pipeline decisions, real-world evidence strategies, and the next generation of patient support design.

What pharma now needs is an AI-native redesign. Not AI as an enhancement to existing workflows, but AI as the coordinating intelligence the entire model is built around. The data layer exists to feed it. The support hub exists to execute what it decides. Every patient interaction becomes an input that makes the next decision more precise and the next intervention more effective. This is not a technology upgrade. It is a structural decision about how pharma creates and captures value from its therapies in the real world.

Patient-centricity, designed correctly, becomes the mechanism through which pharma understands the true value of its therapies and builds the patient relationships that make precision medicine commercially viable. The companies that commit to this ground-up system design will build the retention engine patients now demand and the intelligence engine pharma's pipeline will depend on. The rest will continue spending five billion dollars to reach three percent of the patients they are trying to serve, while the full value of their therapies remains unmeasured and unrealised.



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Acknowledgement

The authors thank the following individuals for their contributions to this report: Shweta Modgil, Rajul Misra

About Incedo

Incedo is a global AI and data transformation specialist empowering companies to realize sustainable business impact from their digital investments by delivering ROI from AI@Scale.

As a long-term partner for strategy to execution, we operate at the intersection of business and technology. Our integrated services and platforms are built on the foundation of AI & Data, digital engineering, and operations transformation, bringing deep domain expertise and full stack capabilities together.

With over 4,000 people in the US, Canada, Latin America and India and a large, diverse portfolio of Fortune 500 enterprises and fast-growing clients worldwide, we work across banking & payments, wealth management, telecom, hi-tech and life sciences.

