Where the Smart Money Is Going in AI Healthcare

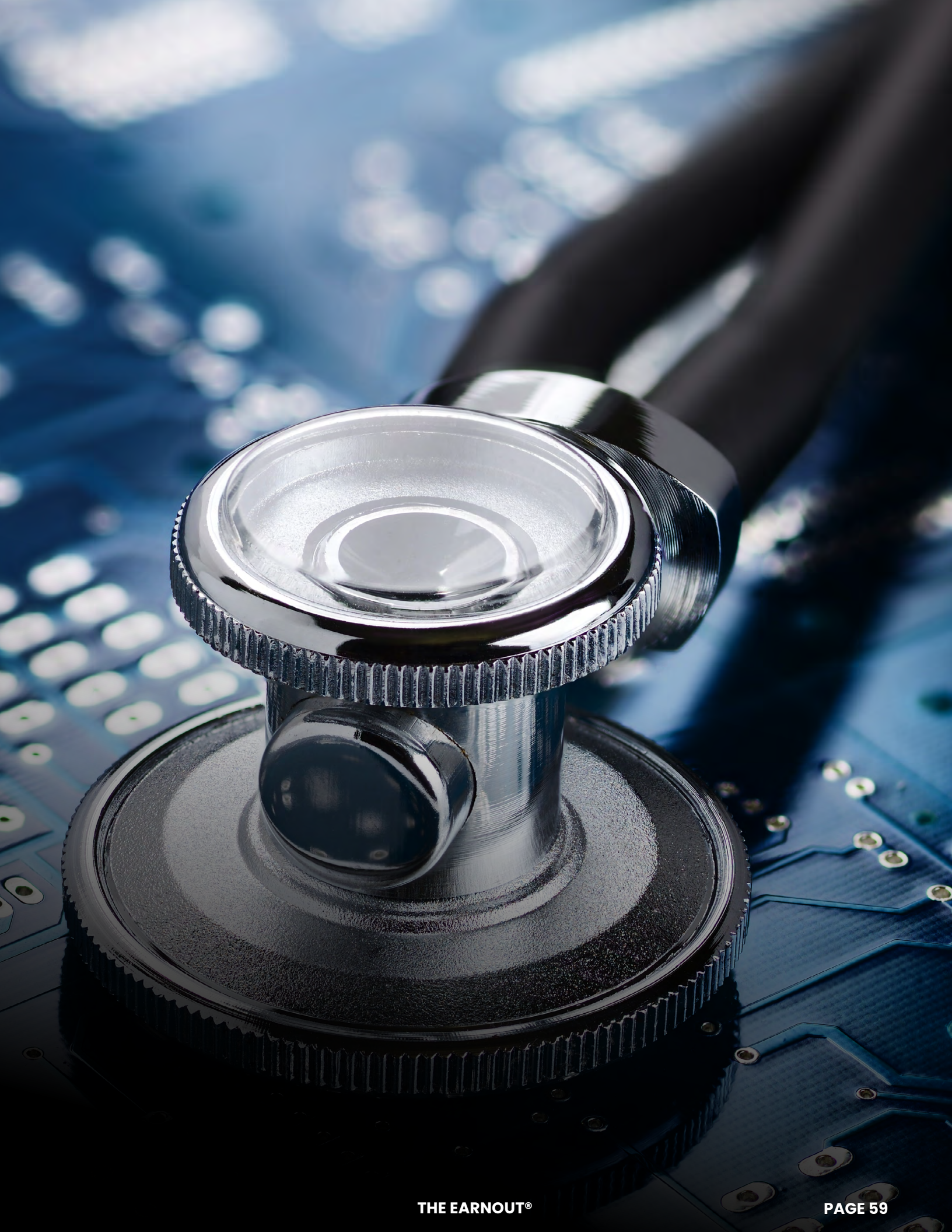
BY CHARLES BOORADY
HEALTH CATALYST CAPITAL

THE $5 TRILLION QUESTION

Here's a number that should wake up every allocator in the room: American healthcare is a **$5.3 trillion market**—nearly 20% of GDP—and it remains one of the most inefficient, paper-laden, labor-constrained industries on the planet.[1] If you're looking for a sector where artificial intelligence can move from slide deck to income statement, this is it.

The demand side is almost absurdly durable. Seventy-five percent of American adults are now managing at least one chronic condition, and half of every dollar the U.S. spends on healthcare is concentrated in just 5% of the population.[2] That kind of spending density doesn't respond to marginal tweaks. It responds to fundamentally different workflows—and that's precisely what AI enables.

Capital markets have noticed. AI-focused healthcare companies captured **54% of total digital**



health funding in 2025—up from 37% the prior year—pulling in $14.2 billion across the sector.[3] Meanwhile, 85% of healthcare organizations report they are already pursuing or have implemented generative AI.[4] This is no longer a speculative bet. It is a capital deployment reality.

THE AMBIENT LAYER: SCRIBES, REVENUE CYCLE, AND THE LABOR BUDGET

If there's a category that defines the current moment in healthcare AI, it's ambient clinical documentation—the so-called "AI scribe." Over **$1.5 billion has flowed into AI scribe companies in roughly 18 months:** Abridge raised $300 million and then $250 million more, Ambience Healthcare pulled in $243 million, and Commure closed $200 million.[5] Investors are not confused about where value is forming.

The underlying math is compelling. Medical documentation and revenue cycle management account for 60% of all healthcare IT spend—a **$38 billion addressable market**, according to Menlo Ventures.[6] McKinsey estimates that more than 10% of U.S. physicians are already using ambient scribing tools, and one large California health system saved **16,000 documentation hours in just 15 months**.[7] A urology group reported a 12% increase in wRVU capture in Q1 2025 after deploying ambient documentation.[8]

Eighty percent of health systems are now exploring or implementing AI for revenue cycle management—a 38-percentage-point jump in two years, per the HFMA/AKASA survey.[9] Documentation time drops 40–60% with ambient scribes, freeing physicians to see more patients and, frankly, to stop hating their jobs.[10]

Here's the insight that PE investors should underline twice: **ambient AI taps labor budgets, not IT budgets**. When you sell against a $15 million annual spend on transcription, coders, and documentation staff—rather than a $500,000 line item for software licenses—you unlock an order-of-magnitude larger total addressable market.[11] That's the kind of TAM expansion that makes roll-up strategies work, especially in the lower middle market where dozens of point solutions are still fragmented and ripe for consolidation. McKinsey sees the industry shifting toward modular, connected AI architectures—think platforms, not plugins.[12]

THE DIAGNOSTIC LAYER: FROM PILOT TO BILLING CODE

The FDA has now authorized more than **1,000 AI-enabled medical devices**, with nearly 80% of them in medical imaging.[13] That regulatory throughput matters. It signals that AI diagnostics are graduating from research curiosity to clinical workflow.

The accuracy data is striking—and, honestly, a little uncomfortable for the medical establishment. AI standalone diagnostic accuracy hits 89%, compared to 74% for clinicians working alone. Even human-AI teams only reach 76%—meaning, somewhat counterintuitively, AI by itself currently outperforms the collaboration.[14] Vinod Khosla has been making this point for years, and the data keeps proving him right.

The AI pathology market was $134 million in 2024

and is projected to reach $1.15 billion by 2033—a **27% CAGR**.[15] Roche's digital pathology platform already hosts over 20 AI algorithms for cancer research and detection. Companies like Valar Labs, an a16z portfolio company, are using AI to predict which cancer treatment will be effective from pathology tissue analysis—and they're actively pursuing CPT codes.[16]

That last detail is the key. The real inflection isn't accuracy—it's ***reimbursement***. When a diagnostic AI algorithm gets its own CPT code, it moves from a cost center to a revenue generator. The a16z team frames healthcare economics as "Price × Quantity = Total Medical Expense."[17] AI is fundamentally changing the quantity side of that equation—fewer unnecessary procedures, faster diagnoses, more targeted treatments. That creates enormous value for payors and patients, even as it disrupts legacy business models built on volume.

On the funding side, OpenEvidence raised a $210 million Series B plus a $200 million Series C to build AI-powered medical information search, while Aidoc pulled in $150 million scaling FDA-cleared solutions across cardiovascular care, oncology, and rib fracture triage.[18] The checks are getting bigger because the evidence base is getting stronger.

AGENTIC AI: THE NEXT FRONTIER

If ambient scribes are the current wave, agentic AI is the next one—and it may be bigger. Instead of passively recording and transcribing, agentic systems act: they call patients, schedule appointments, close care gaps, manage intake, and monitor clinical signals between visits.

The Khosla Ventures / Cleveland Clinic strategic alliance, announced in October 2025, is a bellwether.[19] Portfolio companies get direct access to test innovations in real-world clinical settings—an "innovation sandbox" model that General Catalyst has also pursued with HATCo and Summa Health across 20-plus health system partnerships.[20] As Khosla puts it: **"The biggest risk isn't adopting AI too quickly; it's moving too slowly. Every year we delay, patients suffer and costs balloon."**[21]

The evidence from the NHS is especially persuasive. Forty percent of talking therapies in England now use AI-assisted intake, serving roughly 400,000 patients by December 2024—and recovery rates have nearly doubled.[22] In the U.S., Hippocratic AI raised a $126 million Series C for AI agents that call patients to handle sub-clinical tasks: scheduling, intake, care gap identification.[23] Thyme Care runs an AI-augmented cancer care team paid a monthly per-patient fee, taking actual risk accountability for outcomes—a model that aligns payer incentives with AI capability.

McKinsey reports that agentic AI job postings grew exponentially between 2023 and 2024, with **$1.1 billion in equity investment** flowing to agentic systems.[24] The investment angle is the same one that makes ambient scribes so attractive: these agents compete for **staffing budgets**, not software budgets. When a health system is spending $8 million a year on call-center labor for scheduling and care coordination, an AI agent that costs a fraction of that and operates 24/7 is not a hard sell.

The larger thesis, which a16z articulates well, is

the shift from reactive to proactive care—always-on monitoring, early signal detection, prevention before intervention.[25] That's not just a technology story. It's a business model story, and it's where the next generation of healthcare platforms will be built.

DRUG DISCOVERY AND THE PICKS-AND-SHOVELS PLAY

AI drug discovery is a $5–7 billion market in 2025, projected to reach $8–10 billion in 2026, and McKinsey and Deloitte estimate that generative AI could deliver $60–110 billion annually to pharma.[26] Strategy& at PwC goes further, projecting an **$868 billion opportunity** in pharma and life sciences by 2030.[27] These are eye-watering numbers, but the early results suggest they're directionally right.

Pharma companies are already using AI to submit regulatory filings three times faster. Novartis leverages AI for clinical trial feasibility and site selection. Amgen has deployed deep machine learning in manufacturing.[28] In pathology, companies like PathAI and Proscia have enormous runway as digital pathology enters clinical trials at scale—Roche's platform, hosting 20-plus AI algorithms, is a leading indicator of where the field is heading.

For investors, the question is whether to back pure-play AI biotech—betting on a pipeline—or the **"picks and shovels"**: data infrastructure, model training platforms, clinical trial software, and digital pathology tools. In my experience, the picks-and-shovels play tends to offer better risk-adjusted returns, especially in the lower middle market where you can build proprietary data moats through workflow integration rather than swinging for a single-molecule moonshot.

THE INVESTMENT THESIS: WHERE WE PLAY

At Health Catalyst Capital, our focus is applied AI in the lower middle market—healthcare IT and tech-enabled services businesses. We're not betting on the next foundation model. Foundation models are commoditizing. We're betting on **distribution, data moats, and workflow integration**—the layers where defensibility actually lives.

McKinsey's key insight resonates with how we think about the space: "The real battleground will be who controls the data and orchestration layers."[29] In practical terms, that means companies that sit in the clinical workflow—ambient documentation, RCM, care coordination—and accumulate proprietary data with every patient interaction. The PE model applies beautifully here: fragmented point solutions, rational buyers, clear consolidation logic. Buy three or four best-in-breed ambient documentation companies, integrate them on a common data platform, and you've built something that no single startup can replicate.

PwC estimates that $1 trillion of annual healthcare spending will shift over the next decade from fragmented models toward digital-first care.[30] Vinod Khosla frames the opportunity with a comparison I find particularly useful: AI in healthcare is analogous to Tesla in autos—Tesla created more market value than the ten largest traditional automakers *combined*.[31] A similar scale of value creation is possible in healthcare, and it won't go to the incumbents who move slowly.

I'd be doing a disservice if I didn't flag the risks honestly. Reimbursement uncertainty remains


AI

real—CMS moves at CMS speed. Integration complexity is high; health systems run on 1990s infrastructure duct-taped together with HL7 interfaces. Workflow resistance from clinicians who've been burned by prior "transformational" technologies is significant. And regulatory lag, particularly around agentic systems that make clinical decisions, will create speed bumps.

But the direction of travel is clear. The convergence of capable AI models, massive healthcare datasets, acute labor shortages, and growing payer willingness to fund innovation means this isn't a question of "if." It's a question of "when"—and the window to get positioned ahead of the curve is now.

THE SPEED OF TRUST

Every technology adoption cycle in healthcare eventually comes down to the same thing: trust. Clinicians need to trust the outputs. Patients need to trust the process. Regulators need to trust the evidence. We're in the early innings of building that trust at scale, but the velocity is remarkable. Three years ago, AI scribes were a novelty. Today, they're a line item in health system budgets across the country. Three years from now, agentic AI will be managing patient populations, not just documenting encounters.

The smart money isn't waiting for the technology to be perfect. It's backing the teams that are building trust—one workflow, one integration, one CPT code at a time. In a $5.3 trillion market where inefficiency is the norm and labor is the bottleneck, the returns for getting this right are going to be extraordinary.

The question isn't whether AI will transform healthcare. It already is. The question is whether you'll be an investor in the transformation—or a spectator watching from the sidelines.

CHARLES BOORADY
Managing Partner
Health Catalyst Capital

Mr. Boorady is the Founder and Managing Partner of HCC, and leads the Investment Committee. He has over 25 years of professional experience with healthcare investment and information technology. Charles' career includes over 20 years as a leading healthcare equity analyst with major investment banks including Credit Suisse, Goldman Sachs, and Citi. He was involved underwriting a wide range of deals, most notably as the sole lead analyst on the demutualization and IPO of Anthem in October 2001. As an equity analyst, he was: ranked #1 by Institutional Investor Magazine for his coverage of Managed Care, and ranked in the top 3 in the U.S. for over a decade; named among the "Dazzling Dozen" by Forbes Magazine; and often quoted in national and trade press for his insights on healthcare industry trends. In an earlier stage of his career, Mr. Boorady was a technology consultant for Accenture, a global consulting firm. He is a Founding Advisory Board member of The Oliver Wyman Health Innovation Center, convening leaders to identify business solutions to improve healthcare outcomes. Mr. Boorady has an MBA in Analytic Finance and Statistics from The University of Chicago and a BS in Engineering from Cornell University.