



Digital Health
Highlights

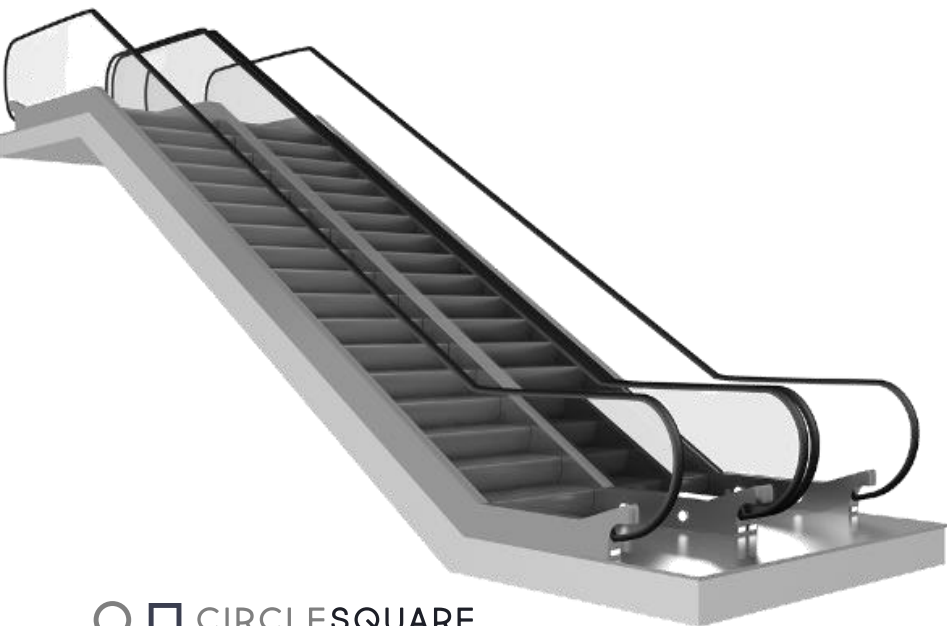
January 2024

  **CIRCLESQUARE**

INFRASTRUCTURE | INTELLIGENCE | ENGAGEMENT

The Ups and Downs of Digital Health

Digital Health Highlights
January 2024



From the co-editors...

Enterprise EHR Foundation

Global digital health standouts this month across multiple regions include: Dedalus, Oracle, CGM, Harris, InterSystems, and IQVIA. Standouts in US revenue cycle include Waystar for front office, and Experian and TruBridge for the back. And in one of the top stories, General Catalyst's HATCo buys Summit Health to demonstrate the value of its healthcare technology investments.

Healthcare Analytics and Intelligence

Epic announced plans for 60 generative AI innovations including unique personalized patient experiences with chatbots and other technologies. McKinsey analysis predicts pharma benefits of \$60b-\$110b per year from AI including personalized patient communications and drug discovery as top focus areas. This analysis is supported by continued acquisition, partnership, and investments this month in drug discovery, real world data, and oncology.

Consumer Health and Technology

Consumer interest in weight loss drugs continues to be top of mind as Lilly and The Mayo Clinic launch new programs to prescribe them, both using partners, including Amwell and Form, while Rock Health looks at several business models in the space. AI is also up this month with Lirio using it for patient engagement, several startups using it for insurance enrollment, and a pair of studies looking at ChatGPT's ability to diagnose and answer medication questions.

Stakeholders

Physicians show some recovery from burnout this month, but still lots to do. Care quality and patient outcomes are worse in hospitals owned by private equity and in corporate-owned practices. New weight loss drugs are driving a competitive landscape across stakeholders to participate.

*Michael Lake and Dave Lake
Co-editors Digital Health Trends*

About this report, Digital Health Highlights

This report includes excerpts from our monthly corporate subscription service, Digital Health Trends.

We've flagged a handful of stories for this highlights version that we hope you find useful. We also hope you will see the value in having access to the full report, like the awesome companies listed to the right do.

If you'd like pricing information on our subscription services, which would give you and your company access to the full contents of our reporting each month, please email me at: dave.lake@circlesquareinc.com.

Thanks, and enjoy the issue.



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Enterprise revenue cycle management platforms

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Disruption and domination in medical imaging: a time for market evolution and 2024 predictions

General Catalyst HATCo buys Summit Health, but it's not what you think

Notable acquisitions and partnerships in foundational systems this month focus on EHR, medical imaging, and revenue cycle

Notable investments in foundational systems this month focus on value-based care, virtual care, virtual reality, and robotics

HHS releases voluntary healthcare-specific cybersecurity performance goals to help prioritize implementation of high-impact cybersecurity practices

Stakeholder Trends

Medscape physician burnout and depression report shows a significant improvement and still a lot of work to do

Studies find that corporate-owned practices, PE-owned hospitals reduce care quality and outcomes

The evolving domain of experience in health systems: extending well beyond in-person patient interactions

Deloitte 2024 outlook for health care and life sciences

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Epic is gearing up to unleash a wave of generative AI innovations in 2024

Big tech and health system partnerships focus on AI with Microsoft most notable

Generative AI in the pharma industry: Moving from hype to reality

Google outperforms primary care physicians on aspects of diagnostic patient interviews

Clinical workflow and patient engagement are predicted by Signify Research as early healthcare use cases for generative AI

Three Google predictions for AI in healthcare in 2024

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Notable investments in healthcare analytics

Consumer Health and Technology

McKinsey looks at the trends defining the \$1.8t global consumer wellness market

Hospitals finally reached widespread price transparency compliance in 2023

US schools turn to online therapy many mental health visits are now done remotely

UK study finds workplace wellness programs have little benefit

Lilly launches direct to consumer, home delivery option for weight-loss drug

ChatGPT does a poor job of answering medication questions and pediatric diagnoses, despite consumer trust in AI growing

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Amazon partners with Omada to launch chronic condition management program

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2023's digital health funding was the lowest in four years

The distance between digital and AI leaders across industries is big, and it's getting bigger

CB Insights releases its list of most promising digital health companies of 2023

General Catalyst HATCo buys Summit Health, but it's not what you think

Focus of HATCo

- 1. Current partners.** Working with its 20+ health system partners to help them develop and execute their transformation journey to health assurance
- 2. Interoperability model.** Helping to catalyze the health assurance ecosystem, building an interoperability model with technology solutions including a subset of its healthcare portfolio companies to drive this transformation
- 3. Buy a health system.** Acquiring and operating a health system for the long term where it can demonstrate the blueprint of this transformation for the rest of the industry



This is a different kind of partnership

The focus isn't on taking costs out ... it's on putting innovation in (we intend to build modern, tech-enabled healthcare delivery platforms at scale, across all points of care)

We are operating over longer time horizons – this is not a quick flip but a long-term commitment to transformation that benefits the community

We have a deeply expert and empathetic leadership team ... people who understand the opportunities and challenges of delivering care firsthand.

We lead with a 'people first/patient first' mantra ... where the overriding goal is to positively transform the patient experience, believing that starting there will have the greatest transformational effect.

We have an unwavering, shared commitment to the principles of health assurance – making care more proactive, accessible, and affordable for all people, everywhere.

Finally, this is not an isolated transaction but part of a broader engagement strategy with our wider healthcare ecosystem – innovators and system partners who will collaborate and share best practices ... in which Summit Health's progress can be an innovation beacon for the rest of the industry.

Summit Health, Akron, OH

Components of care	Two acute care hospital campuses 15 community medical centers Rehab hospital Health plan with 60k members Multi-specialty group practice Research and medical education program
Employees	8,500
Revenue	\$1.8 billion (~2% loss)
Org structure	From non-profit to for-profit
Locations	30 throughout Akron and Canton, Ohio

Editorial: General Catalyst follows through on its October 2023 HATCo launch announcement that it would spend between \$1b-\$3b to buy a health system to prove out its tech investments. Summit Health in Akron, Ohio was selected and it looks like a great match. It uses the Epic EHR so its technology innovations will have a natural market. It's an integrated system with a health plan and medical education. Because of recent negative press about private equity firms being misaligned with healthcare delivery system goals and values, General Catalyst explains how this partnership is different and built to grow.

A slew of companies look to enter the booming weight loss drug space

Drugmakers have been scrambling to join a two-horse race between Novo Nordisk and Eli Lilly to lead the market for popular weight loss drugs, which could be worth tens of billions in less than a decade.

Other large drugmakers have signaled they hope to enter the market, such as **Pfizer**, which has a widely followed but so far ill-fated weight loss drug program, as well as **Amgen**, **Roche**, and **AstraZeneca**.

Boehringer Ingelheim: Developing a weight loss drug with Danish biotech firm **Zealand Pharma**, which has been working on obesity treatments for nearly a decade. Mid-stage trial results for its experimental drug that targets two gut hormones have been positive.

Terns Pharmaceuticals: Much earlier in the development process than BI, it is in early-stage trials for its oral weight loss drug, which will likely be easier for patients to take and for companies to manufacture compared to the existing injections.

Viking Therapeutics: Developing drugs that target GLP-1 and another hormone called GIP, the same hormones that Zepbound and Mounjaro target. Slated to release phase one trial data on an oral version of its weight loss drug in Q1.

Structure Therapeutics: Developing an obesity pill that helped obese patients lose roughly 5% of their weight compared to patients who received a placebo after eight weeks.

Altimune: Developing an experimental obesity injection called pemvidutide, which targets GLP-1 and glucagon. Stock jumped nearly 250% based on mid-stage trial data.

Competitive landscape for hybrid obesity care models

Type	Company	Details
VC-backed	Sequence	2023: Acquired by WeightWatchers for \$132m
	Calibrate	2021: Raised \$100m from investors; 2023: Sold to PE group
	Found	2021: Raised \$100m; 2023: \$600m valuation
	Form	2021: Raised \$21m Series A, bringing its total to \$26m
Incumbent expansion	Noom	2023: Launched Noom Med expanding prescribing capabilities
	Ro	2023: Launched Ro Body expanding prescribing capabilities
	Alpha	2023: Launched Ahead with Alpha expanding medication and lifestyle support offerings
	Vida	2023: Expanded services for chronic conditions to include GLP-1 prescriptions
	Lark	2023: Expanded weight management services including GLP-1 prescriptions
	Everlywell	2023: Expanded virtual service offerings including GLP-1 prescriptions

 OliverWyman

Editorial: In addition to the above, other large drugmakers signaled that they could eventually move to enter the weight loss drug market as well. French company **Sanofi**, whose own GLP-1 drug failed a mid-stage trial almost five years ago, said that in the coming years it could look at potential “next-generation” weight loss drugs that could have advantages over the existing treatments, such as fewer side effects. **Bayer** has said that the company is hesitant to enter the obesity market on its own, but it may partner with other companies.

Google research into conversational diagnostic AI finds it outperforms primary care physicians on aspects of diagnostic patient interviews

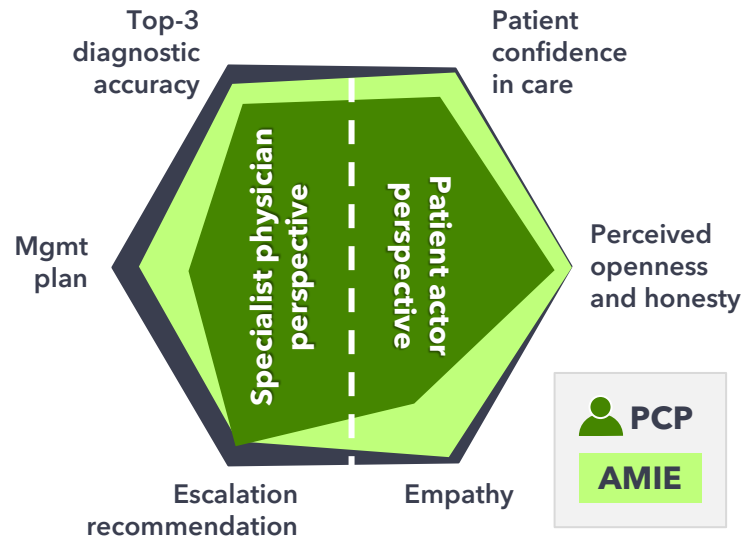
Google introduces AMIE (Articulate Medical Intelligence Explorer), a Large Language Model (LLM) based AI system optimized for diagnostic dialogue.

AMIE uses a novel self-play based simulated environment with automated feedback mechanisms for scaling learning across diverse disease conditions, specialties, and contexts.

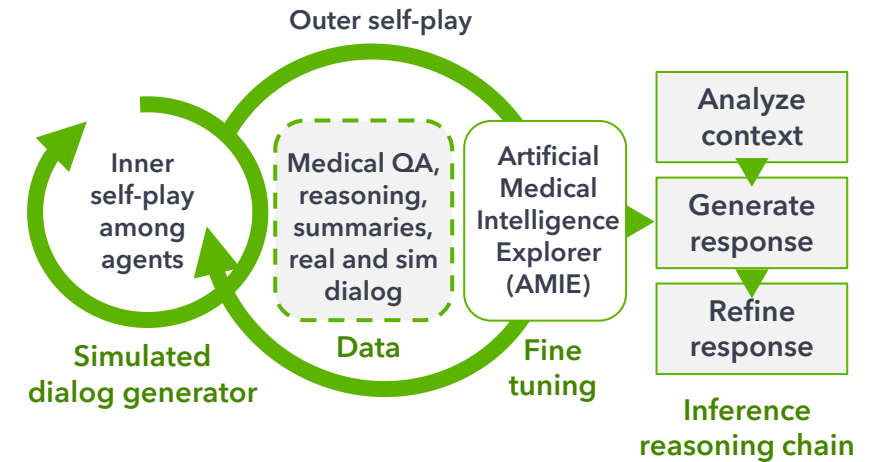
Google designed a framework for evaluating clinically-meaningful axes of performance including history-taking, diagnostic accuracy, management reasoning, communication skills, and empathy.

It compared AMIE's performance to that of primary care physicians (PCPs) in a randomized, double-blind crossover study of text-based consultations with validated patient actors in the style of an Objective Structured Clinical Examination (OSCE).

AMIE outperforms PCPs on multiple evaluation axes for diagnostic dialogue



AMIE system design



Editorial: A Google-created AI system called AMIE that was optimized for diagnostic dialog outperforms primary care doctors in synchronous text chat with patient actors. Particularly notable is how well the AI performs from the patient actor perspective across all three dimensions with empathy and care confidence historically linked to better outcomes.

US schools turn to online therapy as more than one-third of all mental health visits are now done remotely

An analysis by the Associated Press found that at least 16 of the 20 largest US public school districts are offering online therapy sessions to reach millions of students. In those districts alone, schools have signed provider contracts worth more than \$70 million.

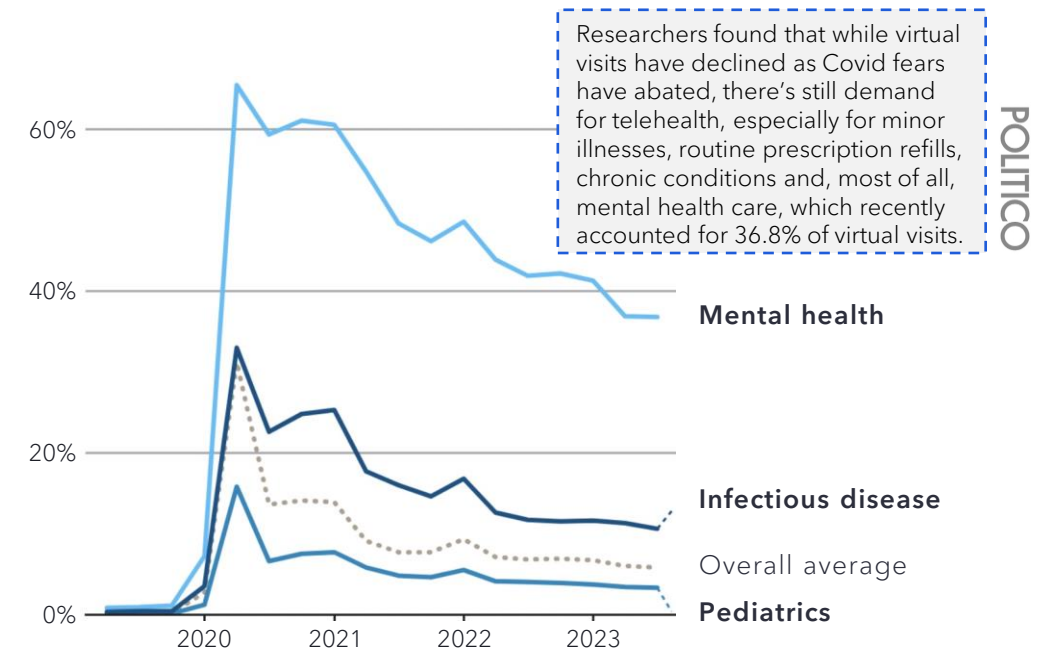
As schools cope with shortages of in-person practitioners, teletherapy is meeting a massive need, especially for rural schools and lower-income students.

One of the biggest providers, San Francisco-based **Hazel Health**, employs more than 300 clinicians providing teletherapy in over 150 school districts in 15 states. The company recently signed a \$24 million contract with Los Angeles County to offer teletherapy services to 1.3 million students for two years.

In November, New York City launched a free telehealth therapy service for teens to help eliminate barriers to access. New York is paying the startup **Talkspace** \$26 million over three years for a service allowing teens aged 13 to 17 to download an app and connect with licensed therapists by phone, video or text.

This month, the California Department of Health Care Services launched two mental health programs for kids: BrightLife Kids (developed by **Brightline**) for parents and kids up to age 12 and Soluna (developed by **Kooth**) for teens and young adults aged 13 to 25. The solutions are free for all users in California and are part of the state's CalHOPE program.

More than one-third of mental health visits are still through telehealth



Editorial: The rise of teletherapy companies has also made it harder for districts to hire vacant positions for counselors and psychologists. "We have 44 counselor vacancies, and telehealth definitely impacts our ability to fill them," Doreen Hogans, supervisor of school counseling in Prince George's County, Maryland, told Politco. Hogans estimates 20% of school counselors who left have taken teletherapy jobs, which offer more flexible hours. Other startups offering virtual mental health solutions targeting kids and teens include **Brightline**, **Limbix**, **Daybreak Health**, **Moshi**, and **Dotcom Therapy**.

How digital therapeutics firms improvise when reimbursement is a challenge



Funding: \$20.2 million

What they do: Make an FDA-cleared software and device combination that teaches people with panic disorder and PTSD how to regulate their breathing.

Freespira has never achieved large-scale reimbursement with major payers or gained traction targeting employers.

They are targeting smaller plans, mostly regional players in Wisconsin, where they can get a foot in the door and show the product's impact.

Business model centers around a deep partnership with payers, where they identify members in a population who might benefit from its treatment and reaches out to them directly.

App also collects data about outcomes, so it can report those back to the payer, and enter into "success-based" contracts in which it gets paid on the results it delivers.



Funding: Publicly traded (NASDAQ)

What they do: Make a video game that treats attention deficit hyperactivity disorder in children and adults

After going public in 2022 to raise money to commercialize, traction was slow, earning just \$111,000 in revenue in 2022.

When coverage was virtually non-existent, Akili pivoted to create an adult version of their product, taking advantage of a pandemic-era policy allowing them to release the treatment directly to consumers without a prescription.

Plans to submit its pediatric and adolescent treatments to the FDA to market the products without a prescription as well.

The pivot seems to be working: Total revenues for the third quarter of 2023 were \$702,000 and they have extended their runway into the second half of 2025.



Funding: \$21.2 million

What they do: Virtual reality-based treatments for pain, anxiety, and other conditions.

Believes its most accessible business model is augmenting care, rather than seeking reimbursement for its own products.

In late 2023, it merged with Fern Health, a digital chronic pain management platform, and the the combined business, called RealizedCare, covers roughly 200,000 lives.

BehaVR's digital therapeutics will be used to enhance care management, in both chronic pain and behavioral health.

Post-merger, they will be able to identify eligible people in populations, offer them resources to help with their pain, and refer them to outside treatment as necessary.

Editorial: Digital therapeutics companies have not had an easy road. Akili has struggled to generated revenue after going public, and **Pear Therapeutics**, makers of an app treating substance use disorders and insomnia, went bankrupt last year after burning through \$400. In 2020, another DTx startup, **Proteus**, which had raised close to \$500 million an ingestible sensor that tracks medication adherence, folded after struggling to find a market for its product. In an adjacent story, the Digital Therapeutics Alliance, a DTx trade group, and ClearView Healthcare Partners issued a [white paper](#) that outlined Freespira's path to reimbursement, which started as everybody but payers and ended with all roads lead to them.

2023's digital health funding in the US was the lowest total in four years

Per Rock Health, annual venture funding for 2023 closed out at \$10.7b raised across 492 deals, the lowest amount of capital invested in US-based digital health startups since 2019.

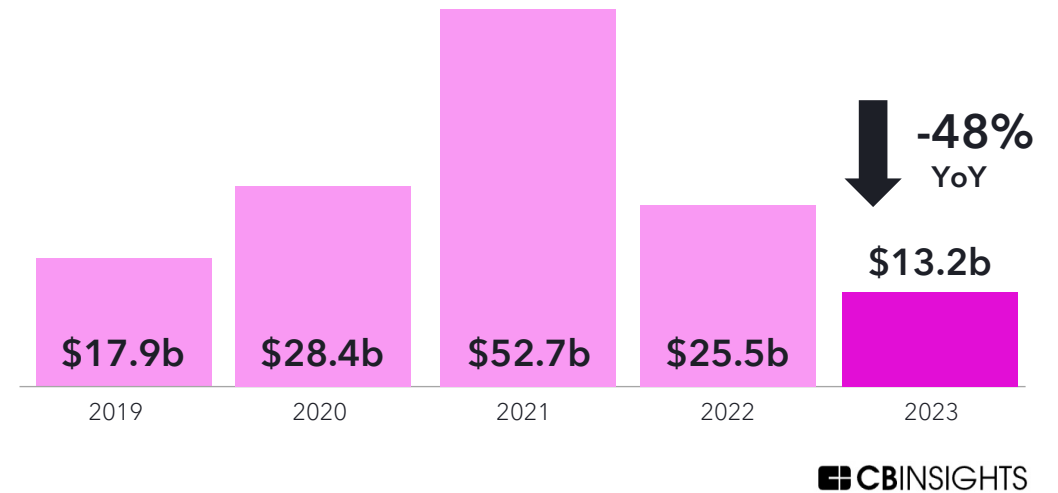
Unlabeled raises: In a new annual record, 44% of 2023's fundraising deals were unlabeled. To secure enough money to survive a down market, many startups sought out creative financing measures such as extension rounds, unlabeled raises, and "silent" deals from existing investors.

M&A: 2023 M&A volume was 23% lower than in 2022. If funding remains sparse and IPOs remain largely out of reach, M&A will become an increasingly attractive option for cash-strapped digital health startups.

Public markets: After a year without a single digital health public exit, a recomposition of the digital health public market in 2024 seems likely. As of December 31, 2023, at least 17% of public digital health companies trading on the NASDAQ or NYSE were noncompliant with listing standards, having traded at or below \$1 for over 30 consecutive business days.

Segmentation: In a companion report, Rock Health looked at seven digital health segments and ranked each on a maturity curve: Food as medicine (nascent), digital obesity care (nascent), caregiver solutions (emerging), AI in healthcare (developing), value-based care enablement (developing), retailers as providers (calibrating), data interoperability (calibrating).

Digital health funding continues to halve in a post-pandemic world



Editorial: CB Insights tallied 2023's funding total at \$13.2b, the lowest total since 2016. Each org uses a different methodology for tracking deals. Rock Health tracks only US funding over \$2m while CB Insights track global investments. Digital health consolidation is expected to continue in 2024, particularly in sectors that have seen considerable funding drops and leading players go under. Innovation could take on a much different form than that seen in 2021, turning from the influx of new players with new tools and capabilities to the deeper development of existing technologies by incumbents. As well, digital health unicorn loss is outpacing unicorn births, driven by a mix of startup exits, down rounds, and shutdowns. Digital health's total unicorn count dropped from 97 to 94 over the course of the year.

Companies mentioned in the full report

98point6	Boehringer Ingelheim	Dedalus	Genomics	Lark	Nexus	Qualtrics	The Big Plan
9amHealth	Bora Pharmaceuticals	Deep Apple	Google	Legacy Care Partners	Noctrix Health	QuantHealth	Tieto
Abbott	BridgeBio	Deutsche Telecom	GranataBio	Lirio	Noom	RadAI	Totus Medicines
Absci	Bright Uro	Devoted Health	GyroGear	Luma Vision	Novo Nordisk	Recursion	Tr1X
Accompany Health	Bright.md	DexCare	Harbor Health	Lunit	NTT	RepeatMD	TREND Health
Adaptive	Brightline	DigitalOwl	Harmoni	MD Synergy	Nuance	RLDatix Life Sciences	TruBridge
Advent Health	BrightSpring Health	Doc	Harris	MedeLoop	Nvidia	Ro	Truepill
Akili	Calibrate	Doctor Anywhere	Hazel Health	Medically Home	Omada	Roche	Turquoise Health
Alight	CancerLinQ	DXC	Headspace	Medivis	Onera Health	Rune Labs	Twin Health
Alpha	Cardinal Health	Elephas	HEAL Security	Medstreaming	OnPoint Healthcare	RVO Health	UpDoc
Altera	CardioSignal	Eli Lilly	Health Insights	Memora Health	Oracle	Samsung	Upsher-Smith
Altimune	Caris	eMed	Healthgrades	Meta	OrCam	Sandoz	Valencell
Amazon	Cerebras	Eng	Healthpilot	Microsoft	Oula	Sanofi	Veradigm
American HealthTech	Certis Oncology	Epic	HealthTrio	Midi Health	Oxa	Santa Barbara Actuaries	Verifiable
Amgen	CG Oncology	eSight	Heranova	MIM Software	Oxford Medical	Science 37	Verustat
Amplifon	CGM	Everis	HOPCo	Miracle-Ear	Panacea Financial	Sciensus	Vida
Amwell	ChipSoft	Everlywell	IBM	Movano	Paradigm	Season Health	Viking Therapeutics
Arbital Health	Cleveland Diagnostics	Experian	iCoachFirst	mPulse	Parallel Learning	Sequence	Vincere Health
Artsight	ClinicMind	EyecareLive	iContracts	MV	Parse Biosciences	SmartLabs	Vinehealth
Asseco	CoachCare	FastMed	Imaware	MY DR NOW	Particle	SmithRx	Violet
AstraZeneca	Cognito	FinThrive	ImpriMed	MyACTome	Pear Therapeutics	Specialty Networks	Visibly
Axuall	Coherus BioSciences	Flatiron	Innovaccr	Nabla	Peerlogic	Spring Health	Vita Health
Baracoda	Comanche Biopharma	Florida Biotech	InterSystems	Nalu Medical	Pfizer	STEMCELL	Vivus
Bayer	Concert AI	Form	Invitae	Napier	Philips	Structure Therapeutics	Volpara
Behavr	Cove	Forta	IQVIA	Natera	Pixeon	Superior Home Health	Waystar
Being Health	Covera Health	Forte	iSoftStone	Navina	PointClickCare	Superior Hospice	Wellory
BESTCare	Credo Health	Found	KAID Health	NAYA Biosciences	Porzio Life Sciences	Synnovation	Wellvana
Billing Dynamix	Culmination Bio	Freespera	Knownwell	Neocis	Propagenix	Talkspace	Withings
binx health	Cured	GE HealthCare	Koha Health	Netsmart	Proprio	Tava Health	You Are Accountable
Biomage	Decision Point	Genesis Chiropractic	Kooth	Neusoft	PursueCare	Terns Pharmaceuticals	Zealand Pharma