



Digital Health
Trends

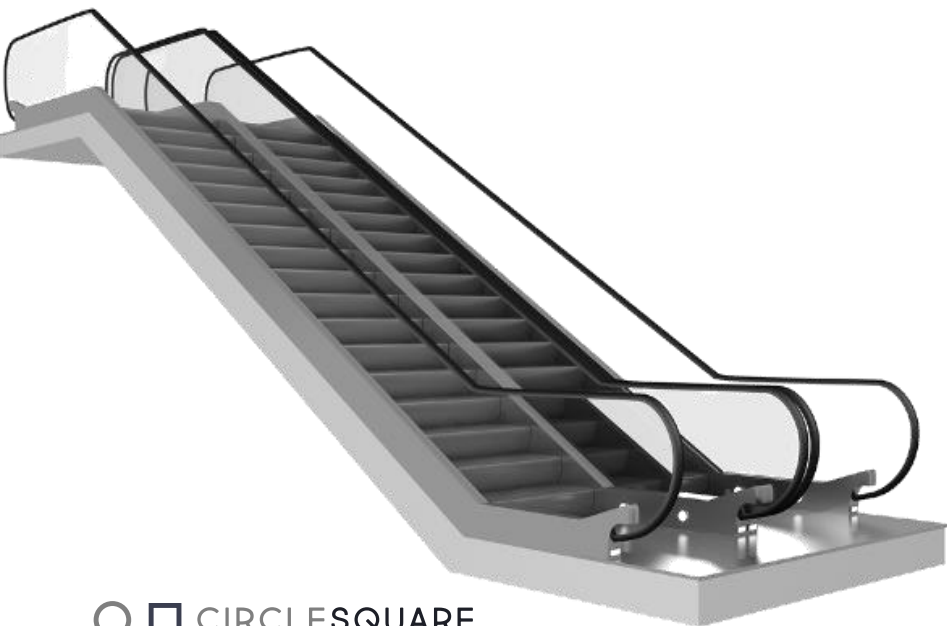
April 2023



HEALTH INFORMATION TECHNOLOGY – CONSUMER HEALTH & TECHNOLOGY

The Ups and Downs of Digital Health

Digital Health Trends
April 2023



From the co-editors...

Interoperable EHRs

Epic is up this month again, as it rates as tops in the FQHC segment (small hospitals) with its Community Connect option delivered by Epic clients. EMRs are generally up, globally, being selected as top priority for health IT investment priorities, by more than half of global healthcare organizations surveyed. Epic is also notable for its partnership with Microsoft to integrate ChatGPT into Epic software.

Censinet, KLAS, and AHA report that the industry is up in its responsiveness to cybersecurity issues, but down for its lack of proactivity.

Healthcare staffing remains the top priority issue across the landscape.

Healthcare Analytics

Value-based care is up this month with Kaiser Permanente buying Geisinger and launching Risant Health, which will acquire other non-profit health systems, creating a national competitor to UnitedHealthcare and CVS Health.

Consumer Health and Technology

Digital therapeutics had a mixed month. AVIA named their top DTx solutions (Xealth was tops), while DTx unicorn Pear Therapeutics filed for bankruptcy. Rock Health examines the company's barriers to commercial success. Telehealth is up this month as KLAS looks at virtual care platform purchase decisions while a study of FQHCs in California finds continuing value in audio-only telehealth services.

Et Cetera

Funding for the first three months of 2023 was tallied at \$3.4 billion across 132 total deals but with six mega deals accounting for 40% of the total. New reports look at the digital health portfolios of US health systems as well as the success rate of partnerships between startups and healthcare companies. And a Kaiser Family Foundation report offers ten things to know about the unwinding of the Medicaid continuous enrollment provision.

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

Contents | Digital Health Trends (April 2023)

Electronic Health Records

Global healthcare IT trends: Understanding HIT priorities post-pandemic

Global EMR trends: What benefits can be expected from an EMR?

Digital health tools (DHT) study found that adoption and use are widespread, but health equity remains elusive

Federally Qualified Health Center (FQHC) technology analysis finds Epic the functional and performance leader in the segment

Five startups trying to solve healthcare's staffing crisis

23 startups selected for the new AWS Healthcare Accelerator focus on cloud-based solutions for the global healthcare worker shortage

Transactions in foundational segments focus this month on data management and AI in operational workflows

Interoperability and Security

HHS proposes new rules to further implement the 21st Century Cures Act

Care orchestration is an approach to address healthcare system waste

Points of Light 2023--- Twenty-five successful payer and provider collaborations

Optum now provides financing for healthcare organization customers who need advanced funds

Benchmarking study: How aligned is the industry to best practices for cybersecurity?

HHS report on health industry cybersecurity practices: Managing Threats and Protecting Patients

Healthcare Analytics

Kaiser buys Geisinger and launches Risant Health, a national non-profit focused on value-based care

Analysis on the future of digital health in pharma
Risk adjustment vendors are providing value in a shifting market

Ambulatory diagnostic cardiology market to hit \$3.3 billion by 2026

BCG proposes a CEO's guide to the generative AI revolution

AI continues to be a key area of future investment for healthcare leaders

Transactions in analytics segments focus this month

Consumer Health and Technology

Large European study underlines power of genomic sequencing to diagnose developmental disorders

Healthcare headlines from non-healthcare companies

KLAS: Integration and consolidation are driving telehealth strategies

Study finds continuing value in audio-only telehealth services

Four startups focused on increasing women's pelvic floor health awareness

Why are there so few scaled consumer marketplace businesses in healthcare?

Retail health clinic use skyrocketed during the pandemic, but growth is expected to slow

Nearly every hospital website is sharing visitor data with a variety of companies

DTx pioneer Pear Therapeutics files for bankruptcy; a look at what went wrong

AVIA names the top digital therapeutics for 2023

Patient satisfaction is the most important measure of a successful patient financing services firm

Aktiia's blood pressure wearable matches cuff in new study

Orthopedic implants are the latest piece of 'smart' medical tech

M&A and partnerships in consumer health segments

Funding highlights in consumer health segments

Et Cetera

Q1 digital health funding: Six mega deals accounted for 40% of the total

Just 13% of partnerships between startups and healthcare companies are successful

New report looks at the digital health portfolios of US health systems

Ten things to know about the unwinding of the Medicaid continuous enrollment provision

Realizing the potential of accountable care in Medicaid

The background features several overlapping, wavy, translucent teal lines that create a sense of motion and depth. These lines flow across the page, with some appearing more prominent than others, creating a layered effect. The overall aesthetic is clean, modern, and professional.

Electronic Health Records

Global healthcare IT trends: Understanding HIT priorities post-pandemic

Global HIT investment priorities (more than one selected - top seven)

EMR / digitalization	53%	↑
Cybersecurity	32%	↑↑
Digital health	32%	---
Interoperability	31%	---
IT infrastructure	31%	↑↑
Data analytics	29%	---
Imaging	25%	↑↑

Note: ↑ = 5-10 point increase from 2019

↑↑ = >10 point increase from 2019

Cloud providers considered (all regions combined)

Microsoft Azure	58%
Private cloud options	55%
AWS	33%
Other public cloud options	19%
Google Cloud Platform	10%

Note: Includes considered and adopted



Consulting firms considered (all regions combined - top eight)

Deloitte	Deloitte	28%
PwC	PwC	21%
KPMG	KPMG	18%
EY	EY	13%
Gartner	Gartner	10%
accenture	Accenture	8%
Microsoft	Microsoft	8%
Tegria	Tegria	8%

Editorial: KLAS Research looks at global (outside US) HIT trends and notes that during the pandemic, healthcare organizations worldwide dramatically shifted IT investment priorities to meet patient needs. Now, the healthcare landscape has changed again, and new IT priorities have emerged. KLAS interviewed 214 individuals from 186 organizations in 45 countries/territories. It reports on where these organizations are prioritizing IT investments, how they plan to leverage the cloud, and what consulting firms they may engage for upcoming projects.

Global EMR trends: What benefits can be expected from an EMR?

Realization of clinical EMR benefits by tier

1	Improved patient care. Achieved to some degree by almost all respondents. ◆◆◆
	Consolidated medical record. Most organizations able to bring together patient records into single source of truth. ◆◆◆
	Reduced medication errors. Includes both improved legibility for prescriptions and technological benefits. ◆◆◆
2	Use of clinical decision support (CDS). Closely tied to reduced medication errors. ◆◆
	Reduced sepsis/other HAIs. Multiple orgs report ability to identify sepsis faster because of EMR alerts and triggers. ◆◆
3	Increased time with patients. Organizations have mixed opinions of EMR's effect on patient/clinician care time. ◆

◆ Blue diamonds indicate frequency of benefits realization



Realization of financial / operational EMR benefits by tier

1	Increased staff efficiency. Benefit is enhanced by clinician templates, less duplication, communication tools, and alerts. ◆◆
	Reduced paper usage. Very often achieved by respondents, especially those live 5+ years. ◆◆◆
	Improved billing operations. Top of mind esp. in regions with private healthcare orgs (e.g., Australia and Middle East). ◆◆◆
2	Reduced duplicate documentation. EMR enables information to be collected once and used multiple times. ◆◆◆
	Fewer unnecessary orders. Benefit is driven by increased visibility into patient history and journey, along with tools ◆◆
	Regulatory requirements met. Not usually a primary driver, except as regulations mandate electronic record use ◆◆
	Fewer internal integrations and vendors/contracts. Achieved at least in part by all interviewed organizations. ◆◆◆
3	Increased patient volume/throughput. Organizations split on whether EMR can increase patient volume. ◆

Editorial: KLAS Research reports on global (Non-US) EMR benefits. Researchers note that as EMR adoption grows worldwide, healthcare orgs all have the same question about the realistic benefits to be achieved from implementing an EMR. KLAS interviewed leaders at 36 non-US healthcare organizations—12 of which are HIMSS Level 6 or 7—to learn about their journey to realizing benefits from an EMR implementation. Their white paper, linked below, summarizes their insights (publicly available without a subscription).

Digital health tools (DHT) study found that adoption and use are widespread, but health equity remains elusive

Key findings

Almost all clinicians in the sample (99.4%) had used at least one DHT in the past five years.

Electronic health records, health information exchanges, and telemedicine had the highest utilization rates.

Over half (52%) of primary care clinicians used telehealth for the first time during the pandemic.

Easing workflow integration, meeting patient need, and improving patient health were the most important factors for clinicians' DHT adoption.

Time and cost were clinicians' top barriers for adopting DHTs.

Clinicians participating in quality reporting programs were more likely to use telemedicine, health information exchanges, and electronic health records than other DHTs.

Policy recommendations

Policy and practice changes could support and expand use of DHTs by primary care clinicians and are needed to maximize the potential for DHTs to promote health equity for patients receiving services in primary care settings. These changes include:

1. Prioritizing equity in healthcare transformation efforts
2. Improving the interoperability of digital health tools
3. Improving access to telehealth
4. Increasing accessibility to culturally and linguistically tailored patient centered DHTs
5. Increasing support for both patients and healthcare professionals in the use of DHTs

Digital health technology use overall, duration, and satisfaction

	Total use	Using < 1 year	Using > 1 year	Will use next yr.	Satisfied or very
Telemedicine	66%	31%	33%	2%	65%
EHR	65%	53%	11%	1%	72%
HIE	53%	41%	11%	2%	65%
Patient portal	49%	35%	12%	2%	58%
PDMP	39%	31%	7%	1%	74%
Mobile app	26%	16%	8%	2%	67%
Wearables	24%	16%	7%	2%	59%
Home monitor	10%	8%	2%	1%	66%

Editorial: In partnership with the United Health Foundation, researchers from the National Center for Primary Care (NCPC) at Morehouse School of Medicine (MSM) conducted the Digital Health Tools Study (DHTS) to assess adoption and use of DHTs and barriers and opportunities for leveraging DHTs to advance health equity. The study assessed adoption and use of DHTs by more than 1,200 primary care clinicians working primarily in four states: Georgia, Kentucky, North Carolina, and Tennessee. We present a snap shot of key findings, recommendations, and the top line data.

Federally Qualified Health Center (FQHC) technology analysis finds Epic the functional and performance leader in the segment



Epic Community Connect

Customers are most consistently satisfied with functionality and use more capabilities than other measured vendors' customer bases.

The EMR is unanimously cited as a core strength; respondents say functionality is stable, robust, and continually improved. Some note difficulties with accessing needed data and reporting for UDS measures, scanning, faxing speed, and the behavioral health and dental modules.

Overall performance: 81.7



athenahealth

Integrated EMR/PM solution is a core strength that allows FQHCs to document easily and operate efficiently.

Some feel the vendor should better align the product with FQHC workflows and provide stronger UDS reporting. Virtual care is an adoption gap; customers want to do more virtual care but feel the module is too costly.

Nearly 60% of respondents want the vendor to focus on improving the behavioral health module.

Overall performance: 79.4



NextGen Healthcare

Scores highest for functionality, but provider satisfaction with functionality is more variable.

FQHCs say vendor's key strength is reporting for UDS measures, A/R, and other financial metrics.

Common issues among dissatisfied respondents include problems with the patient portal and insufficient patient intake capabilities.

Overall performance: 75.0



Greenway Health

Practice management system is noted as a strength and handles complex FQHC billing well; reporting is also seen as a strength.

Multiple respondents report product shortcomings such as population health, patient intake, and virtual care; these FQHCs often use third parties to supplement gaps, leading to a low sense of value.

Overall performance: 67.5



Editorial: KLAS Research looks at federally qualified health centers (FQHCs) and report that they hold a significant and distinct place in US healthcare by providing low-cost, government-subsidized care to underserved populations. Due to FQHCs' integrated care model and government ties, it is harder for these organizations to find comprehensive EMR and PM solutions that meet all care setting needs and are also reasonably priced. Above is a summary of the four leading solutions. eClinicalWorks was also mentioned but had too little data for inclusion above. Epic leads the group in performance. Note that all the Epic sites reviewed were in its community connect model, where another Epic customer hosts the solution. This keeps costs down.

Five startups trying to solve healthcare's staffing crisis



Nursing workforce management

\$171 million raised

IntelyCare uses technology to help facilities reduce their reliance on staffing agencies and manage needs for “float pool nurses,” or RNs without a specialty who fill in wherever units are short, while matching nurses to per diem shifts

Allows nurses to find shifts at their preferred facilities, choose from multiple shift options, and manage their credentials and daily pay

Designed for nurses to breeze through the questionnaire, attend a quick phone interview, and get an offer that same day



Travel nurse staffing platform

\$175 million raised

Trusted Health's core platform helps traveling nurses find contracts and match with hospitals through managed service providers

Trusted Health's second platform, Works, partners with hospitals to manage their nurse workforce, including travel nurse hiring, staffing need predictions, and onboarding of new staff

Startup's goal is to give nurses visibility, transparency, and choice with regards to where, when, and how they want to work



Nurse matching services

\$97 million raised

Alongside nurse matching services, Incredible's platform boasts tools like a personalized salary estimator, free nursing continuing education courses, and an advice platform where nurses can get guidance from peers on workplace challenges and more

About a quarter of US-based nurses and 75% of the top-ranked US health systems are using their platform

Also hosts a space for nurses to connect and ask questions



Travel clinician jobs

\$218 million raised

Nomad offers a marketplace for travel nurses and allied health professionals, including laboratory technicians, physical therapists, and ultrasound technicians

Was an early entrant into the hospital staffing space, connecting clinicians to jobs in an online marketplace where they can search by price, location, and other work factors

Over 300,000 healthcare workers have submitted nearly half a million job applications on the platform



Students with clinical experience

\$670,000 raised

Instead of selling to hospitals, health systems, or clinicians already in the workforce, Grapefruit Health is focused on students

Students who have some previous clinical experience can apply to support facilities with patient telephone outreach

Health systems can pay those students to do more routine tasks, such as delivering negative test results, following up with patients by phone after hospital discharge, training veterans how to use their patient portals, and more

Editorial: Hospitals and nursing homes are competing for nurses after strikes across the country showed an empowered cadre of nurses fed up with high provider-to-patient ratios and stagnant wages. Meanwhile, health systems are navigating a dramatically altered workforce, as many nurses left behind full-time hospital roles for short-term contract and remote positions. The situation has paved the way for a spate of new startups promising to use technology to help health systems with staffing – a pitch that has helped the companies raise billions. Some deploy a mix of human and tech support to help clinicians navigate the often opaque, frustrating world of hiring and scheduling.

Twenty-three startups selected for the new AWS Healthcare Accelerator focus on cloud-based solutions for the global healthcare worker shortage

Momo Medical. A "BedSense" App provides insights into the needs of memory care and nursing home residents.

eConsult. A digital triage and consultation platform for use across primary and emergency care.

Navenio. The location-based solutions can help optimize the utilization of supporting teams throughout a hospital – like cleaners and allied health professionals.

Babblevoice. A practice-wide communications system that can help free up primary care reception staff.

RxPlace. A business-to-business marketplace that helps manage pharmacy operations.

Dropstat. An AI-powered staffing solution that automates staff management.

Hypercare. A mobile suite of collaboration tools to automate manual processes and optimize switchboard operations.

SQUID iQ. A platform that integrates siloed data and automates manual workflows and employs analytics.

Doc Abode. Workforce management software that autogenerates healthcare staff schedules.

Rose Health. Clinically validated behavioral health patient monitoring that can support mental health providers.

IoT Solutions Group. Sensor-based monitoring of activity patterns to help support elder care and specialty care.

PathologyWatch. AI-assisted tools that interface directly with electronic health records and can optimize pathology workflows in dermatology practices.

The TeleDentists. Virtual platform for acute, chronic, primary and specialty dental care that can reduce ER visits.

Visionable. A platform that provides real-time, multi-streaming video solutions to aid in remote decision-making.

InformMe. A platform that enables digital patient communication via mobile devices.

Mytonomy. A video-based patient engagement platform that can send pre-op instructions and help improve patient safety and save nurses time.

Kare Mobile. A mobile dentistry platform that can deliver comprehensive dentistry to underserved areas and support new practices.

Supportiv. A peer-to-peer emotional and social support platform that supplements professional care.

Grapefruit Health. It recruits and trains clinical students to support understaffed healthcare organizations.

MOONHUB. A virtual reality platform that can deliver cost-effective training for care homes.

Proximie. A platform that allows clinicians to enter operating rooms and cardiac catheterization labs virtually to enable real-time guidance and second opinions.

Compassly. A mobile application that manages team skills and ensures compliance standards.

Florence. A virtual training platform that connects long-term care homes and hospitals with background-checked nurses and support workers.



Editorial: The four-week program is focused on digital health tools that target workforce challenges, including retaining healthcare workers, deploying clinicians to new sites of care, and training or upskilling for providers. Reporters note that AWS accelerators are technical, business and mentorship programs that help startups that use the cloud. Last year they focused on health equity. Mentors for the newest global healthcare workforce accelerator include the American Hospital Association, CATI, Deloitte, Intermountain Ventures and several others across the U.S. and EMEA.

Transactions in foundational segments focus this month on data management and AI in operational workflows



EHR and generative AI Partnership

Epic and Microsoft partner to integrate Azure OpenAI Service, including ChatGPT software, with Epic's EHR, piloting at UW Madison, Stanford, and UCSD, for messaging, and reporting via Epic's SlicerDicer app



Supply chain Acquisition

Global Healthcare Exchange (GHX), supply chain management, private equity \$1.8b (2017), acquired Prodigio Solutions, supply chain marketplace, spinout of UPMC, having raised \$30m over six rounds



Payer utilization management Business unit acquisition

Availity, health information network, acquired the utilization management business unit from healthcare automation company Olive AI, including its customers, focusing on prior authorization processes using NLP tools



Life sciences manufacturing \$65m Series C

Apprentice.io turns molecules into medicine; it connects distributed development teams and sites sharing real-time enterprise-wide visibility (\$207m total raised); used by 15 of the top 20 US pharmas



FHIR data management \$40m Series C

1up Health, cloud-based, API-enabled, FHIR data management platform enhancing interoperability for 75 orgs including health plans, CMS ACOs, CROs, and 20+ state Medicaid agencies (\$76m total raised)



Physician ACO platform Acquisition

Vytalize Health, risk-bearing provider enablement platform, acquires the physician-led Independent Physician Association of New York (IPANY), clinical care mgmt and admin for 3,000 physicians in 1,000+ locations.



Hand-held X-ray device \$23m Series A

OXOS Medical, FDA 510(k)-cleared handheld X-ray system for static and serial diagnostic images of the extremities, targets urgent care centers, sports teams, home care, and int'l mission operations (\$42m total raised)



Ambient medical documentation \$12m post-IPO equity and partnership

Augmedix [AUGX], ambient medical documentation, gets additional funds and a partnership with HCA Healthcare (\$150m total raised) including an IPO via reverse merger in 2020-2021

Editorial: Additional transactions included MedShift [gets](#) \$108m Series B (\$118m total) for its plastic surgery practice solution integrated with medical devices; CGM (EHRs) [buys](#) m.Doc (patient portal); DoseSpot (e-prescribing platform) [acquires](#) TreatRx from Bravo Health; Osigu (claims clearing services in Latin America) [acquires](#) Servinte, EHR for Columbian healthcare); Engage Technologies Group (CRM) and APX Platform (practice performance) [merge](#); Verisma and ScanSTAT [merge](#) (release of information services for HIM departments); SentiAR, augmented Reality (AR) visualization technology for medical procedures, [raised](#) \$8.5m Series B (\$23m total); 3M and AWS [partner](#) on using Amazon generative AI tools for ambient clinical documentation; Chiefly [gets](#) \$4m seed for its surgical team collaboration platform.

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Interoperability and Security

HHS proposes new rules to further implement the 21st Century Cures Act

Proposals include:

Implementing the **EHR Reporting Program** as a new Condition of Certification for developers of certified health information technology (health IT) under the Program.

Modifying and expanding exceptions in the **information blocking** regulations to support information sharing.

Revising several Certification Program **certification criteria**, including CDS, patient data, case reporting, and APIs (see details at right)

Adopting the United States Core Data for Interoperability (**USCDI Version 3**) as a standard within the Certification Program and establishing an expiration date for USCDI Version 1 as an adopted standard within the Certification Program.

Updating **standards and implementation specifications** adopted under the Certification Program to advance interoperability, support enhanced health IT functionality, and reduce burden and costs.

Updates to the Certification Program

APIs: Standardized Application Programming Interfaces (APIs), including adoption of the Smart App Launch Implementation Guide v2

Case reporting: Electronic case reporting using HL7® Consolidated Document Architecture (CDA)- and HL7 FHIR-based specifications

CDS: Clinical decision support (CDS) with several new transparency requirements for Health IT Modules that enable or interface with technology intended to support decision making based on predictive models or algorithms

Disclosure flag: New functionality that enables a provider to flag whether specific pieces of a patient's USCDI data should be restricted from subsequent use or disclosure



Editorial: ONC's Health Data, Technology, and Interoperability (HTI-1) proposed rule seeks to implement provisions of the 21st Century Cures Act and make updates to the ONC Health IT Certification Program with new and updated standards, implementation specifications, and certification criteria. HHS and ONC hope that implementation of the proposed rule's provisions will advance interoperability, improve transparency, and support the access, exchange, and use of electronic health information. The links below provide the detailed proposed rule and various summaries.

Care orchestration is an approach to address healthcare system waste

Lumeon care orchestration platform components

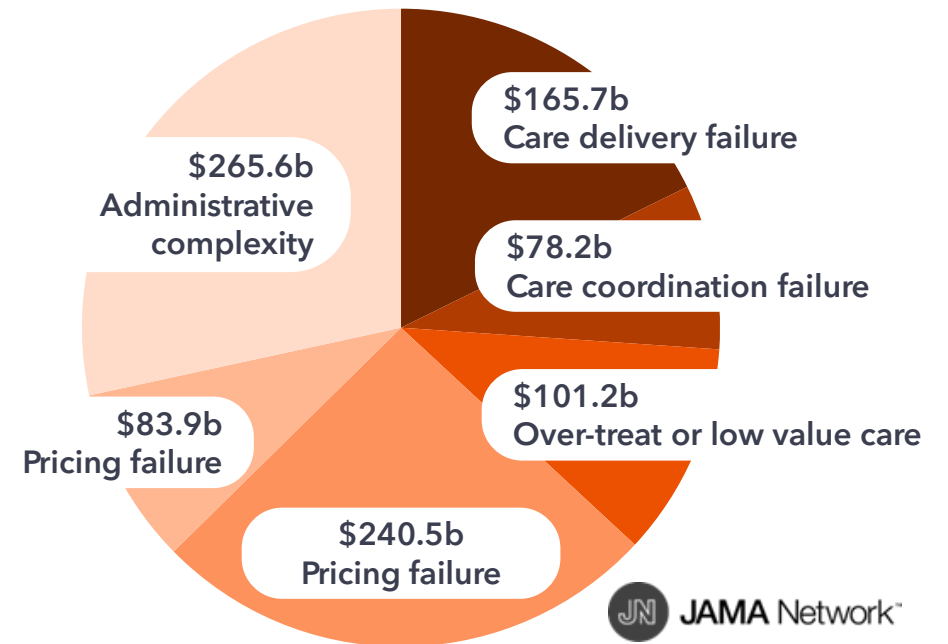
Interoperability: The interoperability broker gathers real-time data from various sources to understand the context for decision making processes, visualizes the data and helps to make better and quicker decisions for each patient.

Configurable workflows and decisioning: The engine is configurable with the existing technology an organization has and works to automate care management processes that are currently manually completed. Once the clinical processes are understood, the orchestration engine then works in real-time to optimize workflows and creates an orchestration plan that runs in the background to standardize processes across the care team consistently.

Timed, loop-closing functionality: The engine knows the outcomes for every step based on the “orchestration plan” and can check to ensure that each step is completed. If a patient or care team member has not completed a step the engine will make sure a workflow task, text message or call is made, if they need to take action, to remind them to complete a task or step, or an action is escalated to the care team member.

Digital tools to automate manual activities: For those activities that result in another action being recorded in the EHR, or where there is processing to be performed on known data, automation and clinical decisioning rules can be utilized to remove manual, repetitive processes that don't need clinical judgment. This comprises a surprising number of clinical tasks and is a major driver of increased efficiency.

US healthcare system wastes up to \$935 billion annually



Editorial: Chilmark Research looks at automation and care orchestration as the key to addressing today's workforce burden while improving patient journeys and outcomes. It analyzes Lumeon's care orchestration platform as an example, in use at 70 organizations in 12 countries. Care orchestration is a step beyond robotic process automation (RPA) which has been successful in addressing financial and administrative workflow issues in revenue cycle management and other areas. Clinical workflows are more difficult to fine tune with traditional automation and Lumeon is an example of a solution platform. It's four key functional components are summarized above. The free research brief is available at the link below.

Points of Light 2023:

Twenty-five successful payer and provider collaborations



Points of friction

44% Interoperability and clinical data exchange top of mind as part of the focus on value-based care:

Transparent data sharing between payer and provider organizations is critical to the success of value-based care initiatives.

28% Automated prior authorization a clear win in terms of efficiency:

Obtaining prior authorization for medications, imaging, and procedures can be a significant source of administrative inefficiency and patient frustration.

20% Success with value-based care requires technology investment:

Recognizing the infrastructure required for success with value-based care.

Most common outcomes

24% Improved healthcare organization experience:

Both administrative staff and clinicians have benefited from more automated workflows, and better understanding of the prior authorization process has reduced denials and decreased delays in claims being paid.

22% Improved efficiency and processes:

With payer/provider workflows being more streamlined and less siloed, stakeholders report improved efficiency in the administrative tasks between their organizations.

18% Improved quality of care and patient experience:

Greater alignment between payer and provider organizations and greater data visibility also lead to faster access to care, better quality of care, and a more satisfactory patient experience.

Lessons learned

Build partnerships of trust and collaboration:

Focus on common ground and have a collaborative, innovative mind-set.

Create the groups and governance structures necessary for success:

Establish governance groups comprised of representatives from all relevant stakeholders.

Choose technology partners with robust technology and proactive:

Look for technology that is sustainable and scalable; vendors need to create technology that works with SMART on FHIR, CDS Hooks, and non-FHIR APIs.

Utilize data to drive improved outcomes:

Start with a small data set for a defined population.

Editorial: KLAS' annual Points of Light awards celebrate success stories of payers, healthcare organizations, and vendors who have partnered to reduce costs and inefficiencies and improve the patient experience. In total, 25 such collaborations were awarded a 2023 Points of Light award, with their strategies and outcomes outlined in a premium report linked below. The digital health solutions discussed in the case studies include Epic, Ciox, Xsolis, Waystar, Health Catalyst, Secure Exchange, Hyphen, MRO, ELLKAY, Azara Healthcare, InterSystems, Olive, MCG Health, CenterX, Availity, Itiliti Health, Cohere Health, CareAllies, Moxe, Cedar Gate Technologies, Stellar Health, FinThrive, Cedar, and Lightbeam Health.

Optum now provides financing for healthcare organization customers who need advanced funds

BECKER'S **Hospital CFO Report**

Optum Pay Advance provides a loan from Optum Bank to healthcare providers who have been Optum Pay customers for at least two years.


The loan is provided with one fixed fee and the company adds repayment automatically as a percentage of the organization's future Optum Pay payments.

Physician practices and organizations can apply for the loan and receive funding within a few business days if the application is accepted.

Recipients cannot have an outstanding balance from prior Optum Financial loans, and the company can add eligibility criteria "as necessary," according to the website.

Last year, Optum Pay moved \$300 billion in claims payments and had more than 2 million healthcare professional customers.

Optum Financial® Market Differentiators

 = positive feature	Optum Pay Advance	Bank secured loan	Bank unsecured loan	Small-medium credit card
Financial cost	\$1,750	\$2,000+	\$4,500	\$8,400
Additional cost	None	Additional fees	Additional fees	Possible
Implied APR	6%	4%-10%	10%-12%	12%-36%
Onboarding	Click-thru enrollment	Extensive (physical documents)	Medium (physical documents)	Low
Approval rate/access	High and fast	Low and slow	Medium and slow	Medium and slow
Personal guarantee	None required	Required	None required	None required
Personal credit check	None required	Extensive (provider and personal)	Extensive (provider and personal)	Low

Editorial: Optum launches a compelling provider financing service that seems to be easy to utilize once a provider has been using Optum Pay for claims for two years. It seems like an attractive option. The Optum Pay Advance web site highlights a behavioral and mental health clinic in Texas, a physical therapist in North Carolina, a rural clinic in Idaho, and a residential facility in Arizona. By using a historical view of claims as both input to initial loan amounts and repayment plans, and by making sign up easy on the front end and automatic via traditional claims accounts as repayment on the back end, Optum has pulled together a value proposition that caught our eye. More details are provided at the links below.

Benchmarking study: How aligned is the industry to best practices for cybersecurity?

Six key findings

1. Healthcare organizations do well at responding to cybersecurity incidents, particularly when it comes to incident analysis. But the data shows a lack of proactivity in managing third-party products and services.
2. Organizations that report lower coverage of Supply Chain Risk Management are more likely to report higher year-to-year increases in their cybersecurity insurance premium, indicating that efforts to better assess and identify risk with supply chain providers can pay off.
3. Most organizations have email protection systems in place that cover a majority of their entities.
4. Medical device security is a significant vulnerability, but ownership of this area by information security leadership has a significantly positive impact. This correlation suggests that coverage in this area can be improved by aligning ownership under the most appropriate leadership.
5. Ownership by information security leadership also shows a positive correlation with network management coverage. Organizations wishing to improve coverage in this area should consider giving ownership to those most suited to manage the risk.
6. Large organizations may lack the resources to meet the HICP guidelines targeted specifically to large organizations. Their coverage in most of these areas is significantly lower than their coverage of the guidelines that they share with medium organizations.

NIST cybersecurity framework

(1) identify, (2) protect, (3) detect, (4) respond, (5) recover

Maturity in two key NIST functions

Identify	Governance	81%
	Risk assessment	74%
	Business environment	71%
	Risk management strategy	61%
	Asset management	58%
	Supply chain risk management	49%
Respond	Analysis	77%
	Mitigation	75%
	Response planning	74%
	Communications	73%
	Improvements	66%

Editorial: Conducted by Censinet, KLAS Research, and the American Hospital Association (AHA), this study is intended to establish collaborative cybersecurity benchmarks for the healthcare industry. The findings are based on evaluations completed by 48 healthcare organizations, ranging from small critical access hospitals to large multispecialty practices and large academic medical centers. The study questions were designed to measure adherence to the guidelines recommended by the NIST Cybersecurity Framework (NIST CSF) and Health Industry Cybersecurity Practices (HICP), with additional questions added to gain insight into organizations' cybersecurity investments and resources and the span of control given to information security leadership. The full executive summary is available at the link below.

HHS report on health industry cybersecurity practices: **Managing Threats and Protecting Patients**

Five key cybersecurity threats

1. Social engineering.

An attempt to trick someone into revealing information (e.g., a password) that can be used to attack systems or networks or taking an action (e.g., clicking a link, opening a document).

2. Ransomware attack.

Ransomware is a type of malware (malicious software) distinct from other malware; its defining characteristic is that it attempts to deny access to a user's data, usually by encrypting the data with a key known only to the attacker who deployed the malware, until a ransom is paid. After the user's data is encrypted, the ransomware directs the user to pay the ransom to the attacker (usually in a cryptocurrency, such as Bitcoin) in order to receive a decryption key

3. Loss or theft of equipment or data.

Every day, mobile devices such as laptops, tablets, smartphones, and USB/thumb drives are lost or stolen, and they end up in the hands of attackers. Theft of equipment and data is an ever present and ongoing threat for all organizations.

4. Insider, accidental, or malicious data loss.

Insider threats exist within every organization where employees, contractors, or other users access the organization's technology infrastructure, network, or databases. There are two types of insider threats: accidental and malicious.

5. Attacks against network-connected medical devices.

Network connected medical devices are network-based devices that leverage networking protocols to communicate and transmit clinical information, such as Bluetooth, TCP/IP and other networks-based technology.

Mitigation recommendations

Ten cybersecurity practices

- 1 Email protection systems
- 2 Endpoint protection systems
- 3 Access management
- 4 Data protection and loss prevention
- 5 Asset management
- 6 Network management
- 7 Vulnerability management
- 8 Security operation centers and incident response
- 9 Network connected medical devices
- 10 Cybersecurity oversight and governance

Editorial: The HHS 405(d) Program released significant resources to help address cybersecurity concerns in the healthcare and public health sector, linked below and highlighted above. The main report discusses five key cybersecurity threats. Technical volumes are available for small organizations and one focused on medium and large organizations, each outlining ten specific cybersecurity practices that mitigate the threats.

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Healthcare **Analytics**

Kaiser buys Geisinger and launches Risant Health, a national non-profit focused on value-based care



Key terms

Risant Health aims to expand and accelerate the adoption of value-based care in diverse, multi-payer, multi-provider, community-based health system environments.

Kaiser Permanente is expected to provide about \$5 billion in funding for Risant Health.

Risant Health plans to acquire four or five more health systems and get to a total revenue of \$30 billion to \$35 billion over the next five years.

Health systems that become a part of Risant Health will continue to operate as regional or community-based health systems while gaining support through Risant's value-based platform.

Geisinger will maintain its name and mission. As the first system to become part of Risant Health, it will be involved in developing the organization's strategy and operational model.

Geisinger President and CEO Jaewon Ryu, MD, will transition to the role of Risant Health CEO.



Under the deal, Geisinger's hospitals and health insurance company would be folded into Kaiser's hospital division, with Kaiser fully owning and operating the division.

Organization demographics

Kaiser, founded in 1945 and based in Oakland, California, has long been a bellwether for uniting different healthcare functions.

It reported \$95.4 billion in revenue last year from 39 hospitals, 12.6 million insurance plan members and nearly 24,000 physicians.

The nonprofit has most fully developed the integrated setup in its home state, where it has a commanding presence, but it also operates in other regions, including the Pacific Northwest, as well as Colorado and Hawaii.

Geisinger, based in Danville, Pennsylvania, reported about \$6.9 billion in revenue last year.

It counts 10 hospitals and about 600,000 health plan enrollees and employs more than 1,700 doctors.

WSJ

Editorial: Geisinger sees this as an opportunity to strengthen its care services and, due to its participation in a broader value-based platform, benefit from enhanced model design, pharmacy, consumer digital engagement, health plan product development and purchasing. Also, its first-to-join position allows it to mold nascent Risant's strategy and operational model. A national value-based care organization would be positioned to compete with CVS Health and United Healthcare. Various sources are linked to the text boxes above.

Analysis on the future of digital health in pharma

Pharma is a catalyst of digital health

Pharma core mandate: Digital health is and continues to be a core mandate for pharma organizations. Perhaps not the natural home for digital health, pharma has the size and scale to catalyze digital health adoption.

End user channel: The strongest value proposition of digital health to pharma is that it offers a channel directly to the end user that far exceeds the small window of drug administration or treatment. Value creation and capture with digital health happens at many different levels – unparalleled access to real world data, new disease insights, tech-enabled patient supports and remote monitoring, to name but a few – and if done right, will undoubtedly feed into the bottom line.

Outcome focused: Pharma play a key role in the intervention side of healthcare delivery; solutions intervening in the patient journey or driving patient outcome are very close to the life science business model. With consumers growing ever more tech savvy and accustomed to the convenience in their lives, pharma has a clear stake in driving new healthcare models.

Low margin until scale: To ride out this next wave, pharma will first need to come to terms with the fact that health tech is a lower margin business unless successful at scale. In the absence of solid proof points, focused strategic learning and environment shaping projects are preferable approaches to large scale and overly risky investments.



A framework for better digital health

Determine fit for digital health: Evaluate the need for digital tools with the end-user in mind. Avoid designing solutions for generic pain points without the context of implementation. *[short term]*

Choose success metrics that resonate: Measuring the right KPIs will allow pharma to evaluate the progress of digital health initiatives and the need for further investment and resources. With the right fit for digital health, there should be initial engagement and adoption in the short term. In the medium term, KPIs should indicate long term potential to scale. *[medium term]*

Rethink resources: As digital health solutions meet short/medium term success metrics, teams will need to evaluate operational models, deployment of talent, and budgets, to set-up for long term scalability and outcomes. *[medium term]*

Partner for a purposeful ecosystem: Partnership models for initial pilots may be set-up for short or medium-term goals. As the partnership evolves, consider larger ecosystem goals for your partnership and ensure there are collaboration and incentives for both pharma and their partners to succeed in the long term. *[medium term]*

Scale with the right business models: Business models are key for long term success. Pharma's traditional business models may not be the right approach for digital solution deployment. Learnings from the short and medium term objectives should enable the choice for the right business models to scale. *[long term]*

Editorial: The report, Pharma 3.0, Doing Digital Health Better, outlines a framework to guide pharma in rebuilding the foundations for digital health. Authors contend that if focused on stepwise wins pharma can iteratively build and reap value from their digital health initiatives, provided they focus on the right use cases for the business and genuine needs of the end customer.

Risk adjustment vendors are providing value in a shifting market

Episource and **Veradigm** offer broad capabilities and positive customer experience.

Well-known vendors **Inovalon**, **Cotiviti** and **Optum** (limited data) are falling behind.

Health assessments from **Vatica Health** offer a unique approach that drives value for customers.

NLP from **Apixio** leads to high accuracy, while its narrow focus has some customers looking elsewhere.

Health Fidelity and **Talix** customers are experiencing bumps post-acquisition by Edifecs.

Advantmed sees increased customer satisfaction after leadership changes.

Ciox Health is often used for chart retrieval but with some missed expectations.

For analytics, **EXL**'s easy-to-use offering aids customer utilization

MedInsight and **Pareto Intelligence** offer prospective capabilities, though its broad offering can add to complexity.



Vendor and Performance		Commonly reported outcomes
Vatica Health	92.5	Help decrease care gaps, predict, and improve HCC coding
EXL	88.2	Improved visibility into care gaps and risk scores
Apixio	86.7	First- and second-pass coding to improve documentation
Pareto Intel.	86,7	Analytics into missed risk, financial, and provider education
Advantmed	85,2	Retrieval rates, visibility into care gaps, improved knowledge
Talix	85.2	Compliance metrics, complete view of members and need
Episource	84.8	Chart review, care gaps and risk scores, improved coding
Veradigm	84.7	Prospective member outreach and retrospective chart review
MedInsight	84.5	Benchmarking, care gaps, and predict future risk
Arcadia	79.3	Improved patient outcomes, VBC contracts, closed risk gaps
Ciox Health	78.0	Chart retrieval, especially for exclusive customers
Change	77.9	Diagnosis code suggestions, risk scores, chart retrieval
Health Fidelity	74.5	Improved ROI, AI capabilities
Cotiviti	68.6	Ability to get needed info, positive ROI from chart retrieval
Inovalon	50.3	Good retrieval rates, cost savings from assessments, analytics

Editorial: KLAS Research analyzes the provider market for risk adjustment vendors and reports that the strategies employed by payers, provider-sponsored health plans, and provider organizations are starting to become more proactive, and the need for solutions with prospective, predictive capabilities is rising. Additionally, amid rising healthcare costs and economic uncertainty, organizations are looking for solutions that not surprisingly deliver more for less. The KLAS Research report examines risk adjustment vendors' abilities to drive outcomes and value, their prospective capabilities, and their offerings' ease of use.

Ambulatory diagnostic cardiology market to hit \$3.3 billion by 2026

Market summary: The global ambulatory diagnostic cardiology market was valued at \$2.6 billion in 2022 and is forecast to rise to \$3.3 billion by 2026.

With a CAGR of 14.4% over the forecast period, the global market for Long-term ECG will be driven by additional demand for remote services as patients are moved toward diagnosis in the ambulatory setting.

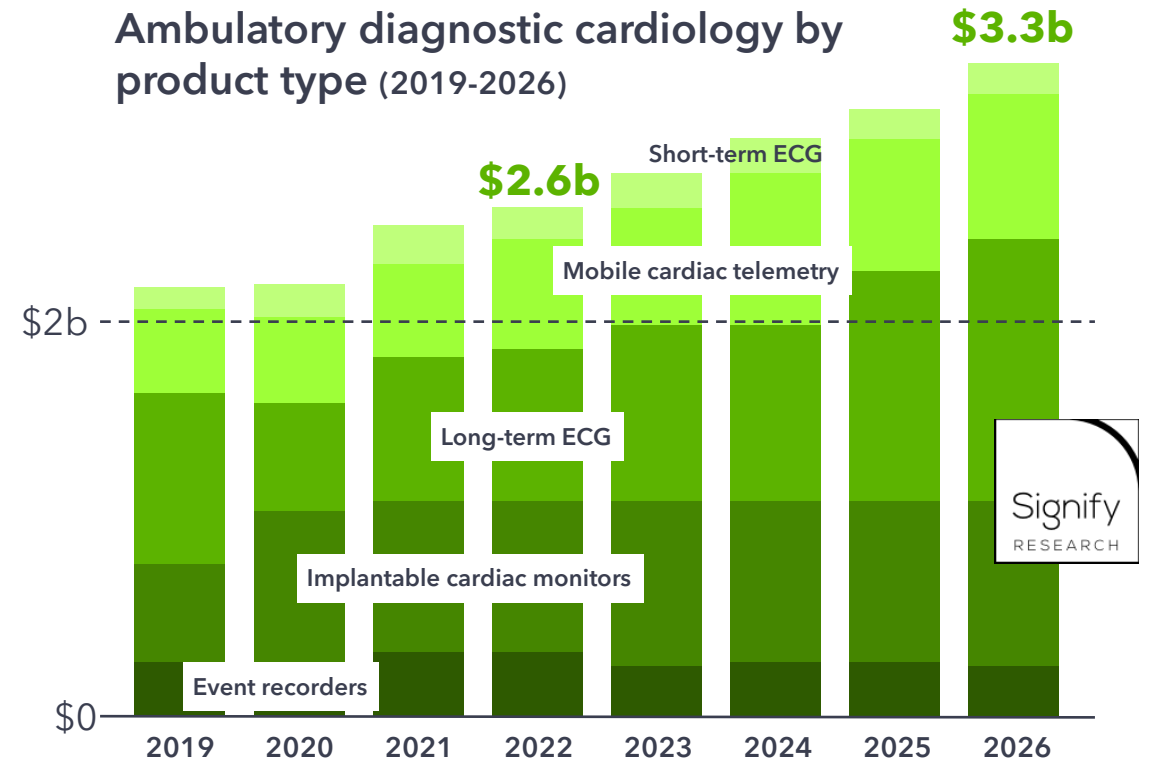
North America is, and will remain, the largest sub-regional market over the forecast period, though CAGRs in EMEA and Asia will both be higher, albeit off lower bases, as reimbursement and broader digital health support is gradually introduced.

Future outlook: The shift to value-based-care, greater use of virtual and remote care solutions, developments around consumer wearable devices and staffing shortages and patient backlogs are all driving the Ambulatory Diagnostic Cardiology market forward.

However, lack of reimbursement, component shortages, and the demands on existing hospital IT (enormous data creation and interoperability concerns) could all act as brakes on growth.

The increasing proliferation of existing and new ambulatory cardiology devices will impact clinical workflows in a number of ways. Non-diagnostic screening devices will funnel more patients into cardiology pathways, though these same (or similar) devices can create workflow efficiencies to compensate for increased patient flows.

Ambulatory diagnostic cardiology by product type (2019-2026)



Editorial: Signify Research analysts also note that the ambulatory diagnostic cardiology segment will be influenced by trends happening in adjacent markets. AI is being utilized to automate and speed up diagnosis. ECG- and PPG-enabled consumer wearable devices will likely increase the numbers of patients entering cardiac clinical pathways. Similarly, remote patient monitoring is another growing market that shares many characteristics seen in the ambulatory cardiology market, both driven by the need to improve cost efficiency, by reducing patient footfall in the higher cost hospital departments. Signify has published a comprehensive market report covering this segment that was published in December 2022.

BCG proposes a CEO's guide to the generative AI revolution

Generative AI has the potential to disrupt nearly every industry---

promising both competitive advantage and creative destruction. CEOs, who are likely several steps removed from the technology itself, may feel uncertain about their next move.

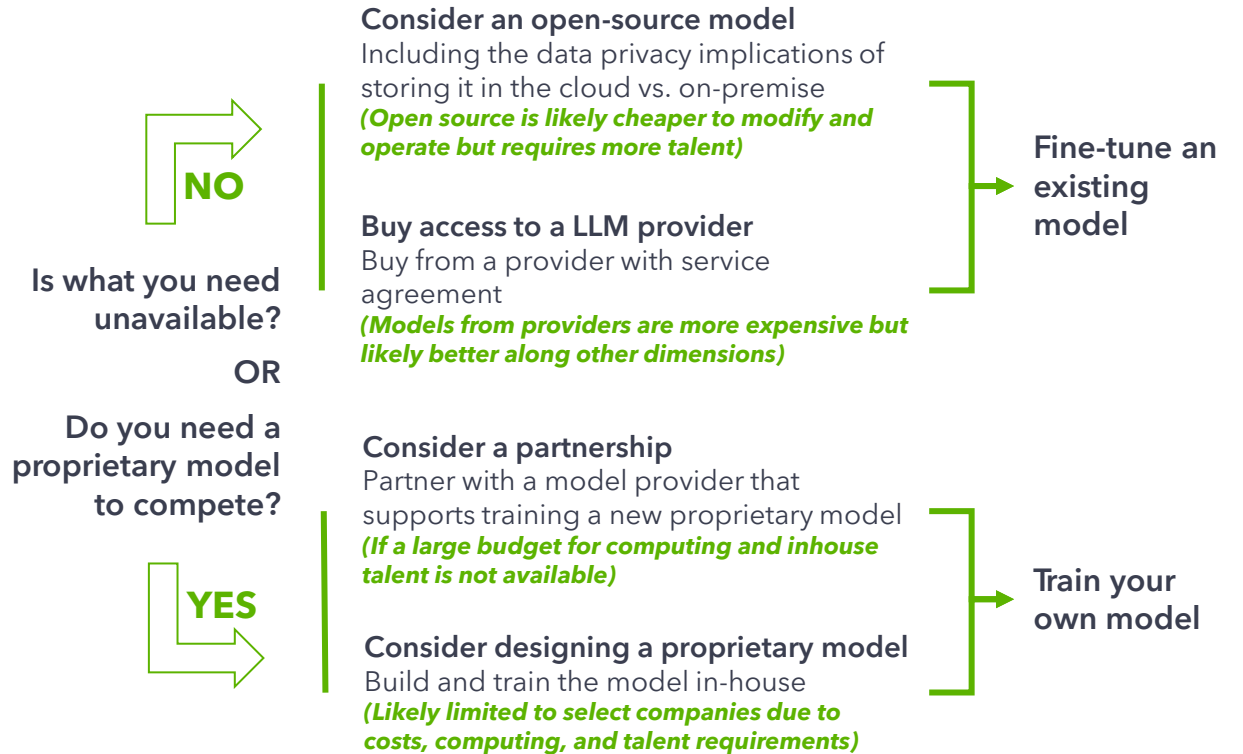
But the priority for leaders isn't to fully immerse themselves in the technology---

instead, they should focus on how generative AI will impact their organizations and their industries, and what strategic choices will enable them to exploit opportunities and manage challenges. These choices are centered on three key pillars:

1. **Potential.** Identify the uses cases that will differentiate your organization.
2. **People.** Adapt your organizational structures and prepare your employees to support deployment.
3. **Policies.** Set up ethical guardrails and legal protections.

Each of these pillars involves short- and long-term considerations--- and many unanswered questions. But CEOs need to prepare for the moment when their current business models become obsolete.

How to choose a large language model



Editorial: BCG sees each pillar in its model (potential-people-policies) as raising an urgent question for CEOs. What innovations become possible when every employee has access to the seemingly infinite memory generative AI offers? How will this technology change how employees' roles are defined and how they are managed? How do leaders contend with the fact that generative AI models may produce false or biased output? Clearly, generative AI is a rapidly evolving space, and each of the pillars above involves short- and long-term considerations—and many other unanswered questions. But CEOs need to prepare for the moment when their current business models become obsolete. BCG proposes how to strategize for that future. Details are linked below.

AI continues to be a key area of future investment for healthcare leaders

83% of healthcare leaders are planning to invest in AI in the next three years, up from 74% in 2021

AI for clinical decision support

Compared to the findings from the Future Health Index 2021 report, planned investments in AI over the next three years show the biggest increase for clinical decision support (from 24% in 2021 to 39% in 2023) (see Figure 4).

This includes AI used for diagnosis or treatment recommendations, early warning scores, and automatic disease detection.

Radiology leaders in particular plan to ramp up their future investments in AI for clinical decision support, from 27% in 2021 to 50% in 2023; followed by informatics leaders (from 24% to 39%) and cardiology leaders (from 29% to 38%).

To a lesser extent, planned investments in AI for predicting outcomes also increased (from 30% in 2021 to 39% in 2023, across all healthcare leaders).

One such application is to compare a patient to similar patients to better predict how they will respond to certain treatment plans.

AI for ops and clinical efficiency

The percentage of healthcare leaders planning to invest in AI for operational efficiency (37%) remains steady from 2021 to 2023.

Examples range from AI used for automating required documentation to AI that can help schedule patients, staff and tasks.

These applications will continue to play a vital role in enabling more efficient use of resources to mitigate the impact of workforce shortages.

Planned investments in AI for integrating diagnostic information (such as imaging, pathology, and a patient's clinical history) also remain constant, at 32%.

Recent clinical studies have shown its potential to save valuable time in diagnostic decision-making, while supporting the clinician experience, for example in cancer care .

Investment evolution

How AI is used	2021	2023
To optimize operational efficiency	37%	37%
To integrate diagnostics	31%	32%
To predict outcomes	30%	39%
For clinical decision support	24%	39%



Editorial: Philips released its 2023 Future Health Index global report showing healthcare leaders are focused on addressing staffing shortages and stepping up planned AI investments. The investments are to increase clinical decision support and operational efficiency that will also help tackle staffing shortages, the focus on the first of three chapters. The others include bringing healthcare closer to the patient, meeting them where they are; and partnering across the health ecosystem to overcome technology barriers, break down data silos, and deliver more integrated care.

Transactions in analytics segments include mega deals by HeartFlow and Arcadia



Cardiology diagnostics

\$215m Series F

HeartFlow offers a non-invasive personalized cardiac test that supports CAD diagnostics and treatment (\$793m total raised); coronary artery anatomy, physiology, and plaque analytics based on CCTA (dye contrast X-rays) data



Value-based care analytics

\$125m debt financing

Arcadia offers a data analytics platform providing care and financial insights to payers, providers, and life sciences orgs (\$155m total raised); curates data from EHRs, claims, SDoH, prescriptions, ADTs, and others



Precision oncology

\$36m partnership

Owkin (France) leads a Bpifrance-funded project; PortrAI, with French hospitals, pathology labs, and technology leaders to develop and deploy new digital pathology AI tools for cancer care (raised \$305m total)



Clinical workflow / pathways

\$30m venture round

Intelligent care enablement by digitizing and automating clinical workflows, triaging patient issues via interactive communications (\$80m total); customers: Northwell, Virtua, Penn, Boston Medical, Moffit



Liquid biopsy breast / prostate

\$24m Series G

Epic Sciences, liquid biopsy for prostate and breast cancer; (\$220m total raised); analysis of ER & HER2 protein expression for care planning for patients with metastatic breast cancer; AR-V7 for prostate cancer analysis



Clinical and wearables data

Acquisition

LexisNexis Risk Solutions (part of UK's RELX), risk analytics, buys Human API, clinical and wearables network and data management for 260m consumers (raised \$37m total)



Drug safety and RWE

FDA Sentinel Initiative

Oracle's Cerner Enviza and John Snow Labs, partner with FDA's drug safety Sentinel Initiative, by developing AI tools to mine clinical notes in EHRs to understand medication effects on large populations



Multispecialty physician practice

Acquisition

Optum has purchased Middletown, NY-based Crystal Run Healthcare, a multispecialty physician group with over 400 providers across more than 30 locations; Optum employs or is affiliated with 70k US physicians

Editorial: Additional transactions included TriNetX (global pharma research network) buys Clinerion and partners with Norstella; Caristo Diagnostics (UK), cardiovascular diagnostics and risk prediction, raised \$16.3m Series A; Tricog Health, cardiac diagnostic algorithms using ECG/Echo, gets \$8.5 Series B2 (\$30m total); RhythmScience, cardiology data and analytics, gets \$6m Series A, led by Cedars-Sinai; Teton.ai (Denmark), AI assistant to optimize nursing workflows, gets \$5.3m seed funding.

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Consumer Health and Technology

Large European study underlines power of genomic sequencing to diagnose developmental disorders

Using genome sequencing greatly expanded the number of diagnoses researchers could provide for children with developmental disorders.

The study, published in the *New England Journal of Medicine*, focused on children with severe developmental disorders who hadn't received diagnoses through other standard methods.

The paper describes results from the Deciphering Developmental Disorders project, which recruited more than 13,000 families from 2011 to 2015 across the UK and Ireland.

The project aimed to comb through thousands of genomes to identify new disease-causing mutations, with a way to use those results to inform and improve individual patient care.

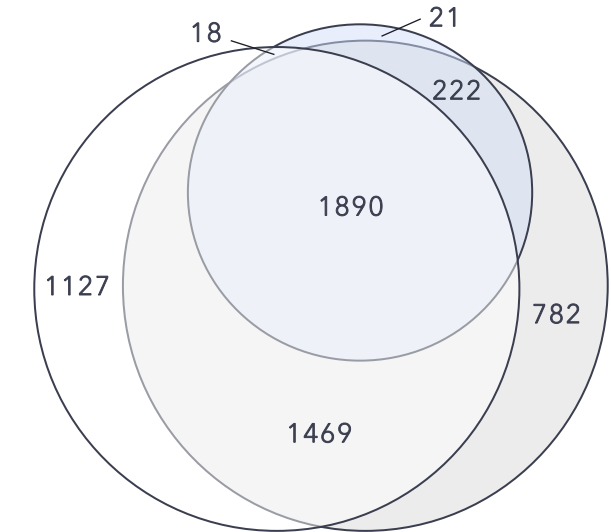
In the study, scientists were more likely to arrive at a diagnosis when they could analyze the DNA of the patient and both parents, because that allowed the researchers to pinpoint tiny changes in the genome between the generations that could cause the child's condition.

The diagnostic rate was comparatively low, however, for children of African descent — another example of the problems caused by a lack of diversity in genomic databases.

To pinpoint which of the millions of genetic variants a person has is pathogenic, researchers compare that person's variants to those in population databases.

Around a quarter of children in the study had their treatment changed once a clear diagnosis was given.

Venn diagram of diagnosis overlap



- Diagnosis based on clinical assessment
- Predicted diagnosis based on ACMG
- Diagnosis augmented by IMPROVE-DD

Editorial: The Deciphering Developmental Disorders study, conducted over 10 years in the UK and Ireland, was a collaboration between the NHS, universities and the Sanger Institute, which specializes in analyzing DNA. The study revealed that 60 of the disorders researchers found were new conditions. Most were errors that had occurred spontaneously at conception, rather than being inherited. Among the findings, researchers discovered Turnpenny-Fry syndrome. It is caused by errors in one genetic instruction within our DNA and leads to learning difficulties. It also affects growth, resulting in a large forehead and sparse hair.

Healthcare headlines from non-healthcare companies

Uber Health

Uber Health expands same-day prescription drug delivery

Uber Health is moving to further into healthcare delivery by allowing doctors and other providers to arrange to have prescriptions dropped off the same day at their patients' homes

Via an integration with ScriptDrop, Uber Health users will be able to manage delivery of their prescription from a pharmacy within their service area and track when their prescription will arrive

Service is an add-on to the platform's existing dashboard, which allows users to schedule non-emergency medical transportation for rides to and from appointments

instacart

Instacart expands health division with provider-facing tools

Grocery delivery service added three new tools allowing providers to create a curated shop for their patients with food recommendations, healthy recipes, and medically-tailored grocery lists

Alongside Instacart's new provider offerings, users will continue to have access to Fresh Funds, a program that gives nonprofits, insurers and employers a way to provide money for nutritious foods, and Care Carts, a service that allows providers and caregivers to place grocery orders on a patient or family member's behalf

Albertsons®

Albertsons grocery chain announces Apple Watch rewards program

Grocery chain Albertsons' digital health and wellness platform Sincerely Health announced a program that will allow consumers to share data from their Apple Watches or iPhones to earn rewards points

Consumers with an Apple Watch Series 3 or later can share their activity data with their Sincerely Health account and earn up to 75 points for closing their Move, Exercise and Stand activity rings; iPhone users who close their Move ring can earn up to 25 points daily

Users can also earn grocery coupons and discounts by setting up goals related to sleep, nutrition, physical activity and lifestyle



Salesforce targets home health, prior authorizations

Salesforce is adding a home health component to its Health Cloud software solution this summer that will automate the intake and scheduling processes for patients with in-home treatments

The plan is to target home healthcare providers and payers in the US; it did not name any specific launch customers for the solution

Home health capabilities include allowing non-clinical employees to access certain data from the EHR to aid scheduling; also added the ability to streamline a scheduler's ability to convert prior authorizations into scheduled visits based on patient's availability

Editorial: In other Uber Health news, the ride share company piloted a program in 2021 and 2022 to offer hundreds of pregnant patients in Washington, D.C. free rides to appointments. [Uber says](#) patients who participated in the pilot were slightly more likely to get prenatal care. The company is shopping the data around to insurers in a bid to get them to pay for the service. As well, Instacart CEO Fidji Simo is [helping launch](#) the Metrodora Institute, a for-profit, AI-enabled medical and research center in Salt Lake City for people with neuroimmune axis disorders. The disorders are complex chronic illnesses that trigger dysfunctional interactions across multiple body systems including the nervous, immune, endocrine, and gastrointestinal systems.

KLAS: Integration and consolidation are driving telehealth strategies

Large and midsize organizations often choose a virtual care platform based on its breadth of capabilities and potential inpatient and outpatient use settings.

Amwell leads in both selections and replacements. It was most often chosen for Oracle Health (Cerner) integration. Current customers often cite concerns with cost, support, and integration, though many customers continue to be optimistic about the new Converge platform.

Prospective Teladoc Health InTouch customers often mention their trust in the vendor as a mature, market-leading presence. Historically, live customers have reported strong outcomes for patients, but over the last year, customers have seen slower response times.

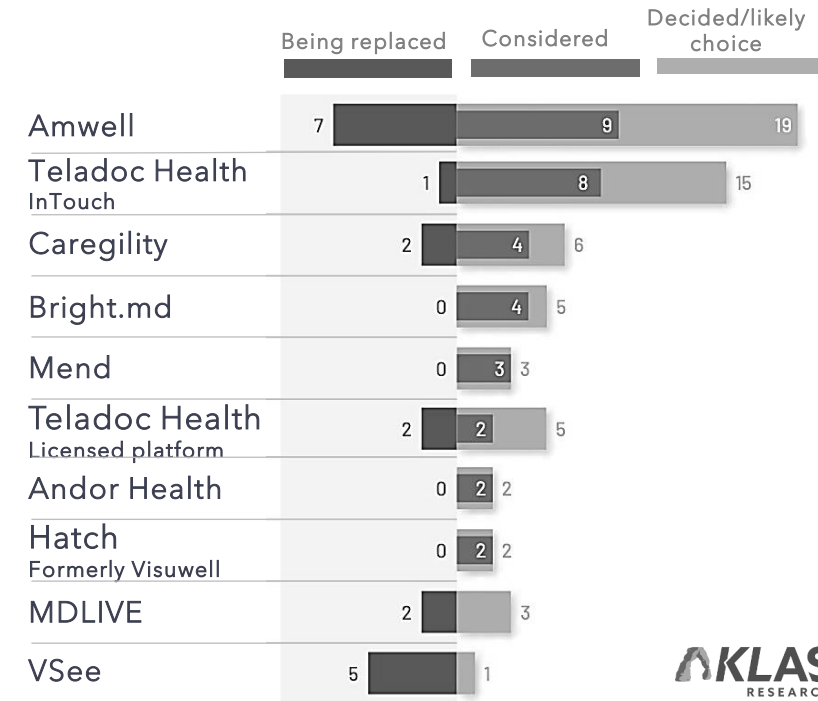
Caregility was often chosen because of the product's appeal. Customers have historically raved about Caregility's partnership. It also stands out for fewer reports of nickel-and-diming.

Video conferencing solutions have become vulnerable to replacement once EMR-based telehealth solutions show sufficient feature parity, leaving Zoom, Vidy, and Cisco Webex especially vulnerable.

Healthcare-focused video conferencing solutions are also vulnerable to being replaced by EMR-based solutions. One exception is Doximity, often due to the system's ease of use and setup, reliability, low cost, and physician familiarity.

Virtual care platform purchase decisions

Vendors ordered by # of decided/likely choices; solutions must have at least two wins or replacements to be included



Editorial: For the report, KLAS invited each vendor to share their recent wins, which KLAS then validated directly with the customer organizations. As organizations settle into their go-forward strategies, top of mind are use-case expansion, tech-stack consolidation, and integration. Among the options for delivering telehealth are virtual care platforms, video conferencing solutions (healthcare-focused and cross-industry), and EMR-based tools. Other vendors included in the report include Access TeleCare, eVisit, Doxy.me, Microsoft Teams, Updax, athenahealth, eClinicalWorks, Elation Health, Epic, Greenway Health, Kareo, and NextGen Healthcare.

Study finds continuing value in audio-only telehealth services

Federally qualified health centers (FQHCs) in California are still delivering healthcare via the telephone, according to a study from the RAND Corporation, raising the value of a modality only used since the pandemic to boost access

In August of 2022, audio-only telehealth was used for one out of every five primary care visits and two of every five behavioral healthcare visits

Regulators relaxed the rules around telehealth access and coverage during the pandemic to enable more people to access care from their homes

Telehealth advocates say many underserved populations, especially in rural areas, can only access care by telephone, as they can't afford or don't have easy access to computers or reliable broadband

Critics say the platform isn't good enough for many healthcare services, and that a telehealth connection should at least have an audio-visual connection.

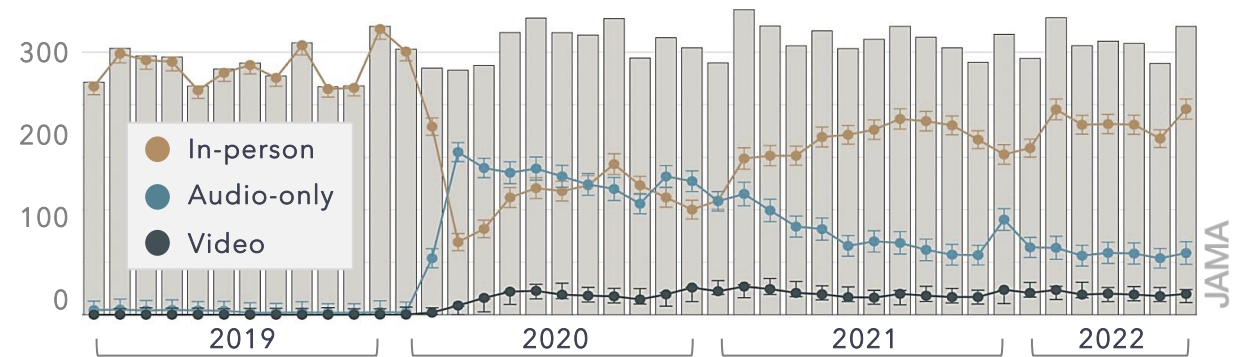
While audio-only telehealth permissions will be scaled back in May, researchers found that the platform still has considerable value

Some states, including California, have permanently allowed Medicare coverage for audio-only telehealth for some services, especially behavioral healthcare access

Primary care visits increased by 8.5% from February 2020 to August 2022, while behavioral health visits jumped 23% during that same time

The proportion of audio-only visits, meanwhile, peaked during the height of the pandemic at 67% of primary care visits and 74% of behavioral care visits, and have since dropped back to 21% and 39%, respectively

Adjusted no. of primary care visits per 1000 patients



Editorial: RAND researchers examined the experiences of 30 multisite FQHCs in California that provide care for 1.3 million lower-income people. Many of the clinics are located in rural areas of the state. The study included information about billable in-person and telehealth (video and audio-only) visits from February 2019 to August 2022. Funding for the research was provided by the California Health Care Foundation. "It appears likely that audio-only visits in these settings will remain widespread in coming years," the lead author of the study said. "More research is needed on the effectiveness of audio-only visits to inform their use in safety net settings."

Four startups focused on increasing women's pelvic floor health awareness

Pelvic floor and urinary incontinence



Startup: Flyte

What they do: FDA-cleared in-home treatment for stress urinary incontinence and pelvic floor muscle strengthening; delivers a treatment modality called mechanotherapy to restore continence and improve pelvic muscle tone; partners with clinicians, e-commerce and retail companies

Funding: \$1.8 million

Background: Urinary incontinence is linked to more than double the rate of severe depression, just behind Alzheimer's and stroke in the three chronic conditions that most adversely impact the quality of life

Pelvic floor diagnostics and treatment



Startup: Watkins-Conti

What they do: Company's flagship product, Yōni.Fit, is a patient-designed medical device created to help relieve the symptoms of stress urinary continence (SUI), the involuntary leakage of urine during physical activity or exerting pressure on the bladder; device is a soft vaginal insert that is designed to be reusable for up to 30 days and easy to clean

Funding: \$6 million

Background: SUI may get worse over time if untreated, potentially leading to pelvic organ prolapse

Putting bladder care into the mainstream



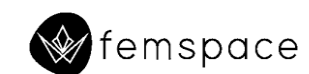
Startup: Jude (UK)

What they do: Supplements supporting overactive bladder symptoms; strengthening the pelvic floor by restoring collagen production and relieving nocturia, which is waking up at night feeling the urge to urinate

Funding: £2 million

Background: Kegel exercises are not the be-all and end-all for women, especially the 10% who have a hypertonic pelvic floor and women who suffer from overactive bladder and nocturia; medication targeting bladder health is extremely intolerable

Pelvic pain and mental health



Startup: Femspace (UK)

What they do: Digital care for pelvic pain (specialist psychological and pelvic floor physiotherapy) in one integrated place; partnering with clinics, women's health organizations, and sexual health companies

Funding: Unknown (backed by Barclays, AccelerateHer, and King's College London)

Background: one in six women and people with a vulva live with persistent pelvic pain; 56% reported that their pain was ignored or dismissed

Editorial: Forbes profiles some of the startups in the growing women's pelvic floor health space. Studies conducted between 2005 and 2010 report that roughly 25% of US women are affected by pelvic floor disorders, a percentage that is likely under-reported and deserving of updated research. Despite the importance of pelvic floor health, many women lack education and awareness about this topic. Other startups tackling pelvic floor health include Renovia (at-home chronic fecal incontinence treatment), Leva (prescription digital therapeutic for urinary incontinence and chronic fecal incontinence in women), Cosm Medical (personalized devices to treat pelvic organ prolapse), and Kegg (Kegel ball for pelvic floor exercises).

Why are there so few scaled consumer marketplace businesses in healthcare?

Andreessen Horowitz's annual Marketplace 100 list found just four scaled consumer marketplace businesses in healthcare, all of them focused on finding therapists (Headway, Alma, Sondermind, and Path).

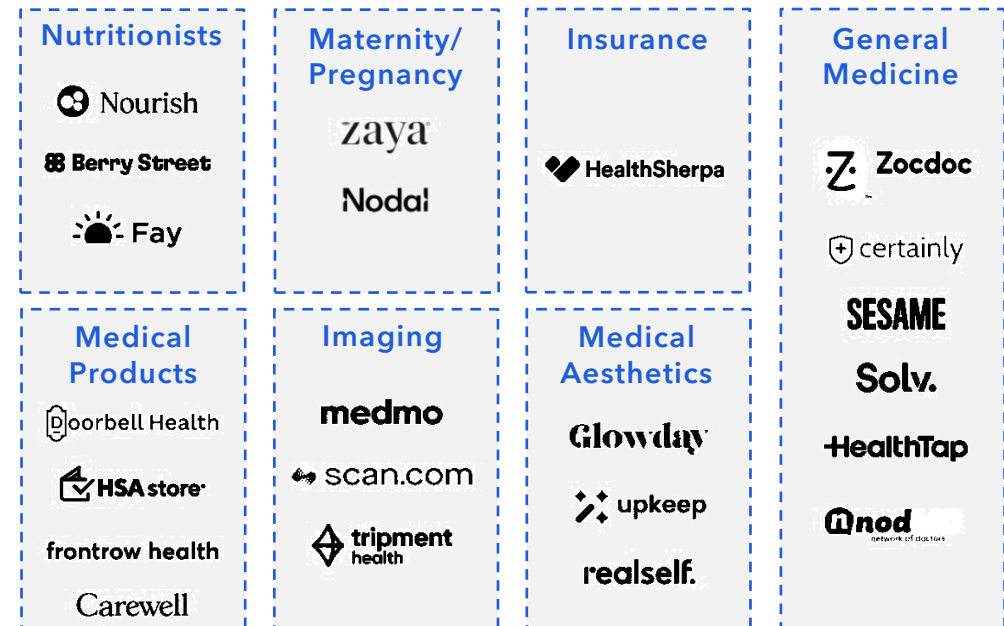
Marketplaces are harder to build and scale in healthcare than in other industries due to its three-sided nature (patient, provider, payor), lack of price and scheduling transparency, infrequent use of healthcare for the majority of consumers, and challenges around qualification of customers.

In mental health, the drivers of successful growth have been: (1) Very high consumer demand driven by increased incidence of mental health issues during Covid; (2) Widespread adoption of telehealth; (3) Historical dearth of therapists who take insurance; (4) Insurance companies that are desperate to expand their mental health provider networks.

The mental health market exhibits many of the conditions that will drive successful consumer healthcare marketplaces: strong consumer side demand; ability for intermediary to add value or ease process; recurring need for multiple services over time; complex patient acquisition processes

On the execution side, the following playbook for building a marketplace has worked in mental health and can be replicated in other specialties: (1) Aggregating a network of providers; (2) Deploying light "operating system" software; (3) Plugging into payment rails; (4) Building a consumer acquisition engine.

B2C healthcare marketplace examples



a16z

Editorial: For its report, VC firm Andreessen Horowitz (a16z) set out to understand why mental health has emerged as a viable consumer marketplace category as well as what other categories of healthcare may be conducive to big consumer marketplaces. A16z makes the case that there is a trillion-dollar opportunity in becoming the front door to healthcare—the marketplace where consumers go to find and book appointments across multiple conditions and specialties, buy the lowest cost drugs, and even shop for insurance.

Retail health clinic use skyrocketed during the pandemic, but growth is expected to slow

Retail health clinic utilization saw the largest increase among all alternative sites of care (retail clinics, urgent care, telehealth, ambulatory surgery centers, and emergency rooms) between 2020-2021, according to new FAIR Health data.

During the first year of the Covid pandemic, retail health clinic utilization increased by 51%.

Meanwhile, urgent care center utilization increased by 14%.

These alternative care sites are usually more convenient for patients, making them a more attractive option than traditional provider offices.

92% of consumers said convenience is the most important factor when choosing their primary care provider, per CVS' 2022 Health Care Insights study.

The average wait time for a family medicine appointment in the US was 20.6 days in 2022, while retail clinics typically offer same- or next-day appointments and are usually open on evenings and weekends.

Alternative care sites are more popular among women than men, with 2021 showing more claim lines for women across most age groups.

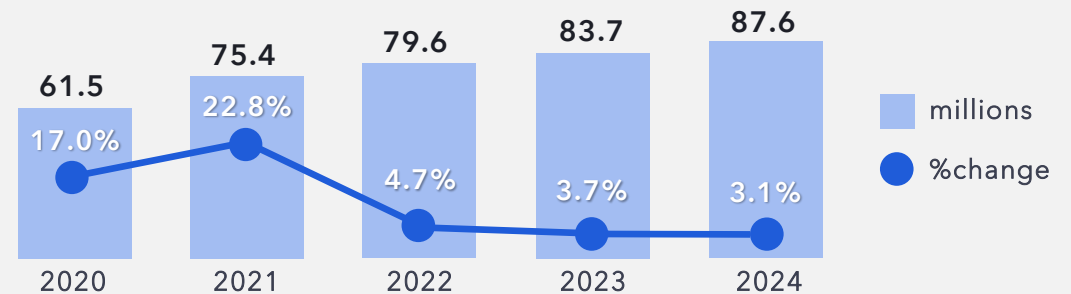
Retail health utilization growth substantially outpaced other alternative care sites during the pandemic in large part because consumers grew comfortable with getting tested for Covid and receiving vaccinations at clinics like CVS and Walgreens.

The growth rate of retail health utilization is expected to slow down, as free Covid tests and vaccines will soon be a thing of the past.

The most popular states for retail health clinics in 2021 included RI, ME, AR, CT, and GA.

Retail clinic patients US, 2020-2024

eMarketer



Editorial: According to Insider Intelligence, physician practice closures, long wait times, and easy access to Covid tests and vaccines pushed consumers toward retail health clinics in 2020 and 2021. Insurers will keep steering patients to lower-cost settings, such as alternative care sites (compared with hospital care, which costs health plans more money), but retail health players shouldn't expect to sustain the utilization bump they experienced during the pandemic. Walgreens recently reported in its Q2 2023 earnings call that it administered 2.4 million vaccinations in Q2, compared with 11.8 million during the prior year's second quarter.

Nearly every hospital website is sharing visitor data with a variety of companies

Almost 99% of hospital websites include tracking software that transfer data to third parties, including technology and social media companies, data brokers, advertisers and even private equity firms; the study, published in Health Affairs, analyzed data from 2021.

Nonprofit hospitals affiliated with medical schools and hospitals in urban areas had higher levels of third-party trafficking than other facilities.

The data captured included visits to pages on specific conditions such as depression, breast cancer, and Alzheimer's disease.

Researchers found that hospitals' widespread use of third-party tracking code allows companies not subject to the HIPAA privacy protections to observe people's browsing behavior across hospital websites.

The practices could lead to targeted advertising based on health, in addition to legal liability for hospitals.

Hospitals commonly shared visitor information with advertising giants, along with a variety of other companies including Golden Gate Capital, a PE firm, and media company Nielsen.

Hospitals use tracking tools supplied by technology companies for the same reason many other businesses do: They want data on the use of their web pages as consumers interact with them online.

The study found that the home pages of more than 3,700 hospitals initiated a median of 16 data transfers to third parties; tracking tools were equally present on pages used by patients to research specific medical conditions.

Select hospital websites transferring data to a tracking entity, 2021

Company	# of hospitals	Percent
Alphabet	3,691	98.5%
Meta	2,083	55.6%
Adobe Systems	1,177	31.4%
AT&T	922	24.6%
Oracle	802	21.4%
Verizon	791	21.1%
Amazon	689	18.4%
Microsoft	671	17.9%
Salesforce	543	14.5%

Editorial: The study, conducted by researchers at the University of Pennsylvania, reveals the distance between expectations of healthcare privacy and reality in the US, where existing privacy law doesn't cover many healthcare actions taken online. "The scale and scope of this continues to shock me even as I work on this research," Matthew McCoy, a co-author of the study and assistant professor of medical ethics and health policy at the University of Pennsylvania, told STAT. "One cannot really access a hospital website in this country without being exposed to really significant levels of tracking." Also this month, [TechCrunch reports](#) that alcohol recovery startups Monument and Tempest shared the personal information and health data of 100,000 patients with advertisers without their consent.

DTx pioneer Pear Therapeutics files for bankruptcy; a look at what went wrong

The pioneering digital therapeutics company filed for Chapter 11 bankruptcy and will seek to sell off its assets to pay back its creditors.

Founded in Boston in 2014 to develop software-based medicines, Pear went public via a SPAC merger in 2021.

The company currently has three FDA-cleared apps which must be prescribed by a doctor: reSET for the treatment of substance use disorder, reSET-O for opiate use disorder, and Somryst for insomnia.

Despite securing the FDA clearances, including the landmark first clearance for a prescription digital therapeutic, the company failed to gain traction with insurers who were skeptical of new technologies.

After entering into a commercial partnership with pharmaceutical company Sandoz in 2018, the two parted ways a year later, and Pear was left to try to sell the products on its own.

Pear secured a few limited wins with state Medicaid programs in Massachusetts in Florida, but as attempts to get broader coverage stalled, it didn't have enough ways of earning money in the short term.

Pear's barriers to commercial success

The burn rate of "market making"

As a market maker, Pear had to make substantial investments in R&D and building a go-to market playbook

US market readiness

Prescription digital therapeutic access in the US remains limited by regulatory and reimbursement murkiness

A bumpy exit pathway

After exiting via SPAC in 2021, Pear was subject to high levels of analyst scrutiny in its first trading quarters

Bespoke contracts

Pear focused on closing sales contracts to specific buyers, limiting cross-sales efficiencies

Double adoption

Pear faced two adoption hurdles: getting providers to prescribe their solution and getting consumers to digitally fill their prescriptions

Mature therapeutic alternatives

Pear faced an uphill battle getting providers and payers to shift to new therapeutic modalities in behavioral health care

ROCK
HEALTH

Editorial: Pear raised \$250 million in funding and pushed the limits of what's possible for prescription digital therapeutics. While most industry observers are bullish on the long-term potential of digital therapeutics, there is a growing acknowledgment that the business model needs improvements. Pear's founder Corey McCann posted on LinkedIn that the company failed because of denials from payers and market conditions. Pear's story emphasizes the significant challenges to "making a market" for a new solution type, especially when that market remains limited by regulatory and reimbursement murkiness. The bankruptcy will end Pear as a company, but it's possible that a pharmaceutical company or some other player will purchase the assets and reach patients at scale.

AVIA names the top digital therapeutics for 2023

Company	Segment	What they do
Xealth	Data aggregation	Centralizes digital health tools within the EHR, making it easier for clinicians to prescribe DTx and monitor patient progress
Livongo	Chronic care	On-demand support and one-on-one human and digital coaching to help members adopt healthier habits
SilverCloud Health	Behavioral health	Evidence-based behavioral health solutions for anxiety and depression, insomnia, chronic illnesses, alcohol abuse, and more
Biofourmis	Monitoring	AI and ML to interpret and analyze physiologic data to support clinical judgment and deliver remote care services
Propeller Health	Asthma/COPD	Sensors to track inhaler usage, personalized coaching, and interactive tools for patients to track symptoms and triggers
Prosoma	Cancer care	Cognitive behavioral therapy and other approaches to provide mental health support for cancer patients, survivors, and caregivers
Riva	Hypertension	Smartphone-based care program provides intensive hypertension management from a team of clinicians and health coaches
Welldoc	Chronic conditions	Chronic care platform with integrated behavioral health support for pre-diabetes and diabetes, hypertension, and heart failure
Headspace Health	Mental health	On-demand mental health support with text-based coaching, video therapy, and personalized self-guided care resources
Kaia Health	MSK	Smartphone camera analyzes movements and guides patients through proper exercise form while providing real-time feedback
Sweetch	Chronic care	Combats plan nonadherence with automated and personalized recommendations to guide patients through achievable goals
Lark	Chronic care	24/7 digital coaching to members as they work to improve lifestyle risk factors and develop sustainable healthy habits
Sidekick Health	Chronic care	Interactive health coach creates tailored care journeys that appeal to emotion to help drive positive health decisions
Vida	Chronic care	Enterprise solution combines regular coaching or therapy sessions with app-based personalized interventions
Dario Health	Chronic care	Personalized digital interactions with tools and monitoring devices, along with human support and referrals to higher levels of care
Mahana	IBS	Behavioral health approach to the treatment of irritable bowel syndrome with clinically validated effectiveness for all IBS subtypes
Akili	ADHD	Leverages the engagement power of video games to deliver sensory and motor stimuli that activates specific areas of the brain
Rocket VR Health	Mental health	Meditation and therapeutic techniques delivered as self-guided or facilitator-led sessions in immersive environments
MedRhythms	Mobility	Patients walk to a specific beat while sensors collect data, assesses progress, and provide auditory stimuli to improve movement
Click Therapeutics	Smoking cessation	Controlled breathing exercises, financial incentives, digital diversions and care plan adherence tools to help users quit smoking
Blue Note Therapeutics	Cancer care	Focus on improving mental health for cancer patients and survivors, a population with high distress, anxiety, and depression
AppliedVR	Chronic pain	Virtual environments provoke a measurable physiological response with immediate relief for acute episodes
Paloma Health	Hypothyroidism	Testing, virtual visits and medication management, as well as nutritional guidance and ongoing text message-based support



Editorial: AVIA's marketplace aims to offer unbiased information about digital health companies and solutions, allowing healthcare leaders to access vendor profiles, refine by product category, solution type and EHR integrations, see ratings and reviews, and find vendors with experience serving similar organizations. Companies were chosen based on the number of verified health system clients listed for each company on AVIA's marketplace.

Patient satisfaction is the most important measure of a successful patient financing services firm




Patient financing services firms provide flexible, long-term payment plans (i.e., longer than six months) that can generate increased revenue for provider organizations and improve the patient experience.

While healthcare orgs often consider financial metrics when using patient financing services, they are most likely to prioritize patient satisfaction in measuring their firm’s performance.

When patient financing options are offered, adoption is generally high, but further increased adoption is hindered by several issues—including a lack of education about the services, fear the firm may be a collections agency or credit card company, and a perceived lack of outreach efforts from firms to encourage patients to sign up.

Measured patient financing services firms perform extremely well with minor differentiation across their overall performance scores. While interviewed clients of all firms praise their firm’s performance and results, clients tend to point out unique strengths for each firm (see chart at right).

Snapshot of firm performance

	 accessone.	 carepayment.	 ClearBalance
Performance	91.2	93.8	91.4
Loyalty	A	A	A
Operations	A-	A	A
Relationship	A	A+	A
Services	B+	A	A-
Value	A-	A	A-
Customer experience pillars	Highlighted by clients for being innovative and strategically using technology to improve collections and the patient experience. Clients feel the firm continually evolves their technology to further enhance results.	Clients praise the strong relationships the firm cultivates with patients. The firm is noted for working with patients whenever possible, leading to high patient satisfaction.	Client organizations highlight the financial results the firm brings, citing flexible patient options, account consolidation, and long-term payment plans as drivers of increased revenue, reduced bad debt, and minimized recourse.



Editorial: Patient financing services are firm-provided services offered through provider organizations that give patients additional healthcare financing options, as patients can’t always pay their account balances in full within six months. Provider organizations who work with patient financing services firms do so to provide flexible payment options without carrying large patient account balances or financing patient debt for extensive periods of time. This report is KLAS’ first to focus on patient financing services.

Aktiia's blood pressure pressure wearable matches cuff in new study

Aktiia, a cuffless blood pressure tracking wearable, has shown comparable results to traditional cuff, a new study has revealed.

The study, published by Hypertension Research, compared the results of ABPM and Aktiia monitor in measuring blood pressure and heart rate in 50 sessions of 52 patients.

No significant differences were found in measuring daytime systolic blood pressure (SBP) compared to a traditional cuff.

While it found some differences in daytime diastolic blood pressure (DBP) when compared to ABPM, these were deemed to be not statistically significant.

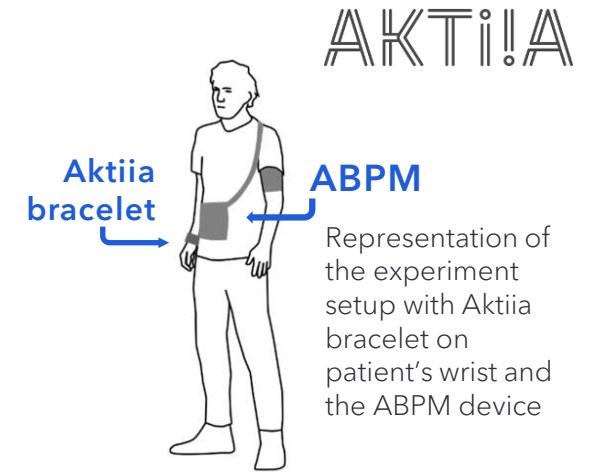
This means Aktiia-produced blood pressure data is comparable to that of a traditional ambulatory blood pressure monitor (ABPM) for both systolic and diastolic blood pressure measurements during the day.

The study also demonstrates that wrist-worn, non-invasive wearables have a huge role to play in the treatment of hypertension, which could be particularly beneficial for patients who require regular blood pressure monitoring, such as those with hypertension, diabetes, or heart disease.

The study has some limitations. It was conducted on a small sample of patients, and the results may not be generalizable to other populations.

The study only evaluated the daytime measurements, and further studies are needed to determine the accuracy of the Aktiia monitor for 24-hour monitoring.

Systolic blood pressure (SBP) is the highest pressure in the arteries when the heart pumps blood out to the body. Diastolic blood pressure (DBP) is the lowest pressure when the heart is resting and filling with blood.



Editorial: "I'm convinced that the deployment of optical blood pressure monitors will be the key technological piece that will transform hypertension management forever, bringing blood pressure control to a scale that was never imagined before," said Aktiia co-founder and CTO Josep Solà in a post on LinkedIn. "If 20 years ago the clinical community had not embraced the idea that continuous glucose monitors would transform diabetes management forever, we would still be performing twice-a-day finger-stick punctures to pediatric patients."

Orthopedic implants are the latest piece of 'smart' medical tech

A “smart knee” from medical-device maker Zimmer Biomet comes with built-in sensors that can wirelessly transmit a slew of data about how the replacement knee is working.

Details about a patient’s gait can be sent daily to an orthopedist, who can track step counts, range of motion and other metrics in the months and years after surgery, reassuring patients who are hitting recovery milestones, or alternately, ordering a change in the patient’s physical therapy regimen.

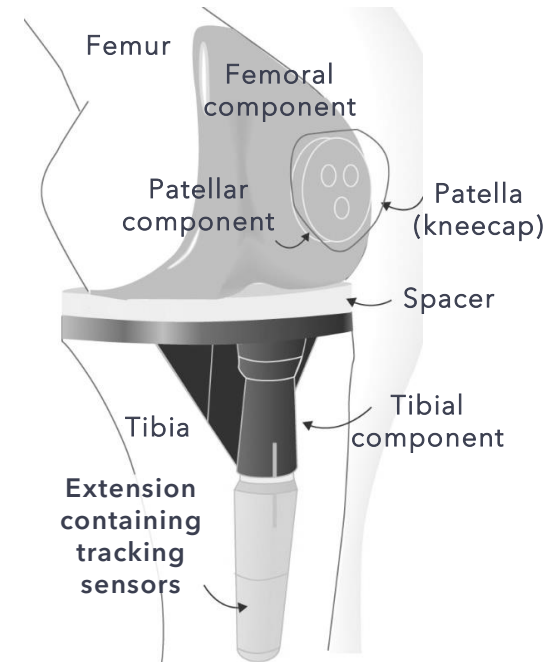
The sensor device extends about two inches from the end of the tibia portion of the artificial knee. It contains electronics, accelerometers and gyroscopes to track the movement of the knee and is powered by a battery that can last ten years or more.

The sensors transmit data via radio waves to a home-base station, a box the size of a small notebook that can be kept on a nightstand. The box connects to a computer.





Johnson & Johnson is developing a sensor-equipped version of its surgical trauma plates, which are implanted devices used to stabilize bone fractures while they’re healing.

Some types of implanted medical devices, such as pacemakers, have had data-transmission capabilities for years, but orthopedic implants typically haven’t had such smart features.

How a ‘smart knee’ works



What it tracks:

-  Range of motion
-  Step count per day and average steps per minute
-  Stride length
-  Distance traveled and average walking speed

WSJ

Editorial: About one million total knee replacements are performed in the US each year. Doctors usually monitor progress with in-person checkups and patient self-reporting, however sometimes patients can omit or misreport useful information. With doctors being able to access data remotely, it could spare patients from having to make in-person follow-up visits. As well, when the battery on the Zimmer Biomet smart knee runs out, the artificial knee can function as a standard implant, without data capability.

M&A and partnerships in consumer health segments



Reproductive health Acquisition

Twentyeight Health, telehealth provider of reproductive and sexual health services, has acquired SimpleHealth, a digital reproductive care company; Twentyeight Health will provide the services previously offered by SimpleHealth



Virtual reality Merger

XRHealth, VR platform for stress, anxiety, chronic pain, and more, and Amelia Virtual Care, a VR platform for mental health professionals, announced their intention to merge under the XRHealth brand name



Digital pharmacy Acquisition

UK-based digital pharmacy startup Phlo has acquired the UK assets of US rival Truepill, including NHS patient, APIs and prescribing technology; Phlo also gains Truepill's partnerships with UK digital health providers



Virtual visits Acquisition

Virtual care platform company eVisit acquired Bluestream Health to add digital front door capabilities, integrated language services, and other digital tools to its solution; allows eVisit to add 200 languages and ASL to its service



Gastrointestinal care Partnership

Aetna announced a value-based care partnership with digital gastrointestinal care startup Oshi Health in six states; Oshi offers virtual access to providers for patients with digestive concerns like IBS, Crohn's Disease, and ulcerative colitis



Wearables Partnership

Smarting company Oura announced a deal with Best Buy that will bring its ring to around 850 locations around the US; Oura has some brick-and-mortar presence already, but nothing that rivals this new Best Buy deal



Care access Partnership

Affordable medication company Cost Plus Drugs announced two partnerships: one with binx health to offer online access to routine testing, and a second with Zocalo, a virtual primary care provider for Latino patients



Heart disease Partnership

Sprinter Health, a mobile diagnostics company, and Story Health, scalable specialty care beyond the clinic, announced a partnership to bring care into the homes of patients with heart disease

Editorial: Also this month, Clearday, a longevity technology company using robotic companion care and AI to serve the senior adult care sector, and Viveon Health Acquisition Corp., a SPAC, will merge in a deal that values the combined company at \$370 million. As well, Hopper Health, a virtual primary care company for neurodivergent adults, is partnering with health equity platform Violet to help its providers deliver more culturally competent and inclusive care.

Funding highlights in consumer health segments

Company	Segment	Round/Total	What they do
Saluda Medical	Neuromodulation	\$150m Equity / \$400m	Evoke is the only ECAP-controlled closed-loop smart spinal cord stimulation system and is indicated as an aid in the management of chronic intractable pain of the trunk and/or limbs.
Cortica	Autism	\$77m Series D / \$135m	Uses data analytics, an in-house scheduling software platform, and clinical decision support tools to provide ABA, medical, counseling and developmental services to autistic children.
Spring Health	Mental health	\$70m Venture / \$367m	B2B behavioral health unicorn teams up with employers and health plans to offer digital support, meditation exercises, coaching, therapy and medication.
Recuro Health	Virtual care	\$47m Series B / \$62m	Digital Medical Home service allows patients to virtually access healthcare services, including behavioral healthcare, virtual primary and urgent care, genomics testing, and at-home lab testing.
Oshi Health	Gastrointestinal health	\$30m Series B / \$60m	Provides patients with gastrointestinal issues virtual access to a team of providers, including a gastroenterologist, behavioral health clinician, dietitian and health coach.
TympaHealth (UK)	Hearing	\$23m Series A / \$31m	FDA cleared handheld hardware built around streamlined iPhone and Android devices, and corresponding software, to run hearing tests; 250k patients in the UK.
Wellth	Behavior change	\$20m Series B / \$40m	App-based digital health programs that use financial incentives and behavioral economics combined with a smartphone experience to improve adherence to patients' care plans.
Inato	Clinical trials	\$20m Series A2 / \$36m	Company's mission is to help small community research sites gain more access to clinical trials for their patient populations; free for community providers but not for sponsors.
Scene Health	Medication adherence	\$17.7m Series B / \$36m	Connects users with a team of pharmacists, nurses and health coaches and uses daily asynchronous video check-ins to prompt patients take their medications properly; formerly known as emocha.
Gather Health	Primary care for seniors	\$15m Series A / \$27m	Utilizes a provider with a 'wrap-around' care team approach with community members providing social support and helping to navigate the healthcare system, and EMTs offering at-home visits.
Felix (Canada)	D2C virtual care	\$13.4m Series B / 23m	Online consultations and prescriptions for birth control, PrEP, weight loss, hair loss, erectile dysfunction, acne, anxiety, depression and other conditions

Editorial: Other funding includes [\\$13m Series B](#) for Israel's **Neteera** (contactless remote patient monitoring), [\\$12m Series A](#) for UK's **Scan.com** (reducing imaging wait times), [\\$11m Venture](#) for Canada's **Omy Laboratories** (personalized skin care treatments), [\\$10m Series A](#) for **Tally Health** (extending longevity), [\\$8m Venture](#) for **MedArrive** (paramedics, EMTs and more see patients in their homes), [\\$7.6m Venture](#) for **Clue** (menstrual cycle tracking and reproductive health), and [\\$6.5m private placement](#) for **Better Therapeutics** (cognitive behavioral therapy for diabetes, hypertension and other cardiometabolic diseases), [\\$6m Series A2](#) for India's **Dozee** (contactless remote patient monitoring), [\\$5m Seed](#) for **MilkMate** (in-office breast pumping), and [\\$3.6m Series A](#) for **Eli Health** (saliva-based hormone testing solution).



Et
Cetera

Q1 digital health funding: Six mega deals accounted for 40% of the total

A report from Rock Health tallied funding for the first three months of 2023 at \$3.4 billion across 132 total deals. Six mega deals with more than \$100 million in funding accounted for 40% of this total (see graph at right).

Though Q1 investments surpassed the last two quarters, the mega deal upticks don't necessarily foreshadow a sector rebound. Rather, they indicate that the sector's more established players and investors are trying to find their sea legs in this market.

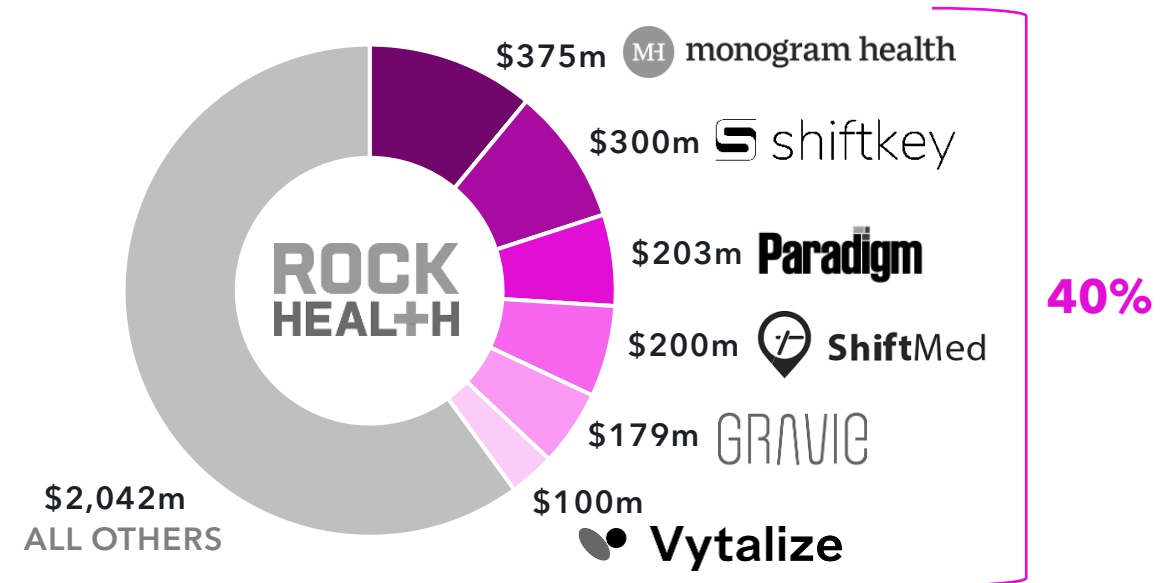
If funding for the next three quarters matches the average funding across the prior three quarters, 2023 is on pace for the lowest level of annual funding since 2019.

The IPO market is still closed and there were zero digital health IPOs in Q1 2023. Later stage firms are having to get creative with financing and valuation.

Silicon Valley Bank's collapse nearly precipitated a liquidity crisis in the sector. The likely result will be a few more months of funding conservatism.

Digital health startups are bracing for impending regulatory changes, as a group of federal agencies attempt to refine policies across digital health; this will have far-reaching impacts, affecting telehealth reimbursement, controlled substance distribution, healthcare pricing and rebates, and patient data management.

Q1 2023 digital health funding (total \$3.4b)



Editorial: The average deal size in Q1 was \$25.9m. The fact that six deals nearly equaled the funding brought in from the quarter's 126 others signals that the current market is being driven by a select group of large, high impact transactions. ARCH Venture Partners and General Catalyst's co-incubated startup Paradigm raised digital health's largest ever Series A round (\$203m) in January. Strangely, none of the other orgs that traditionally report on quarterly digital health funding (Startup Health, CB Insights), offered analysis by the time of publication.

Just 13% of partnerships between startups and healthcare companies are successful

55% of corporates prefer partnerships over their own developments to drive innovation in digital health. 34% prefer to build digital health solutions in-house. Investment is only seen by 9% as the preferred approach to drive innovation.

Currently only 13% of digital health partnerships over the past two years are rated as successful (see chart at right).

Six common management structures are being used: separate digital health teams (69%), digital health teams under product line (31%), partnering units (25%), innovation hubs (25%), accelerators (25%), and venture funds (16%).

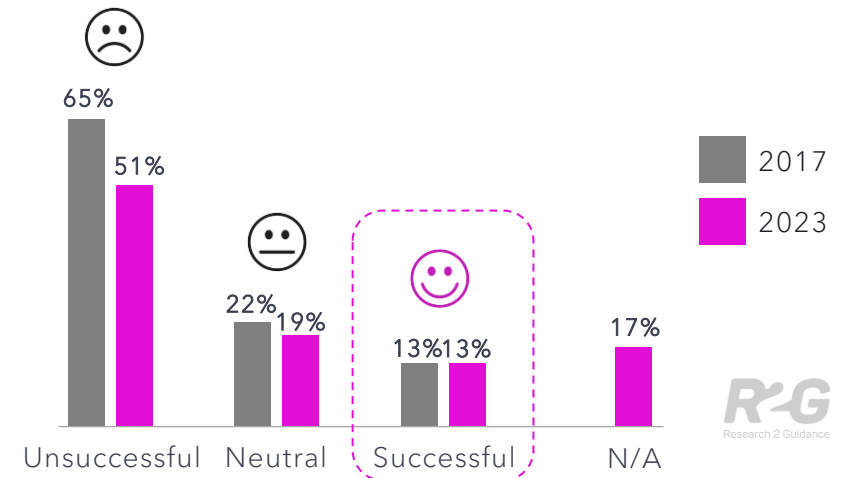
Most companies have closed up to five partnerships (62%) in the last two years; 11% have managed to start more than ten partnerships in the same timeframe.

The top three reasons behind a partnership's failure are a lack of a clear partnership strategy (55%), time-consuming and cumbersome decision-making processes (46%), and unrealistic and mismatched expectations (43%).

Telehealth, RPM, data analytics, and AI have been the top digital health partnering areas among companies in the last two years.

There is an imbalance in resource allocation during all phases of partnership management.

Share of successful partnerships



Editorial: The report, Partnerships in Digital Health 2023, is based on a global survey and interviews among 790 digital health decision makers conducted in March 2023. The study analyzes changes in a company's approaches to partnerships in digital health over the last three years. The report says corporates should anticipate failures, reallocate resources, outsource scouting, and apply best-in-class partnership management tools. On the other side, startups should be more selective in partnerships, anticipate corporate gaps, and find the right level of autonomy during a partnership for the collaboration to be deemed successful. The full report is available for free at the link below.

New report looks at the digital health portfolios of US health systems

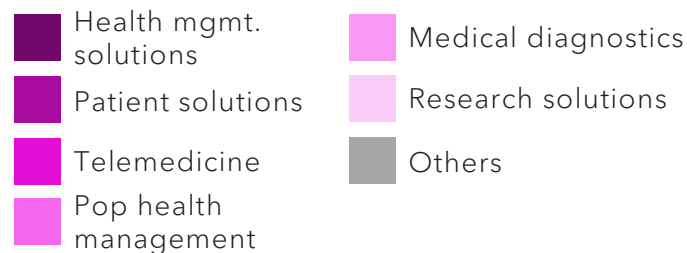
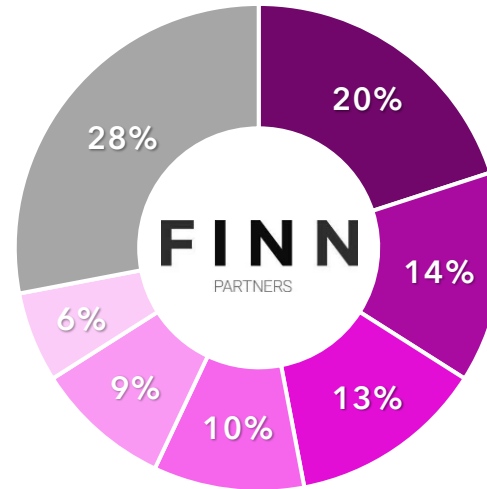
In 2022, 31% of all global partnerships with digital health ventures were built with US health systems and hospitals, more than any other industry vertical engaged with digital health.

Only 10 health systems had a digital health portfolio larger than 15 ventures.

While the largest health systems focused on partnerships in infrastructure improvement and treatment, the most active systems are partnering more in diagnosis and have a higher share of digital tools for research.

Research solutions and clinical trials were the top strategic areas, with 69% of ventures having significant clinical evidence.

Oncology took the top position across therapeutic areas (30%), followed by cardiovascular diseases (20%).



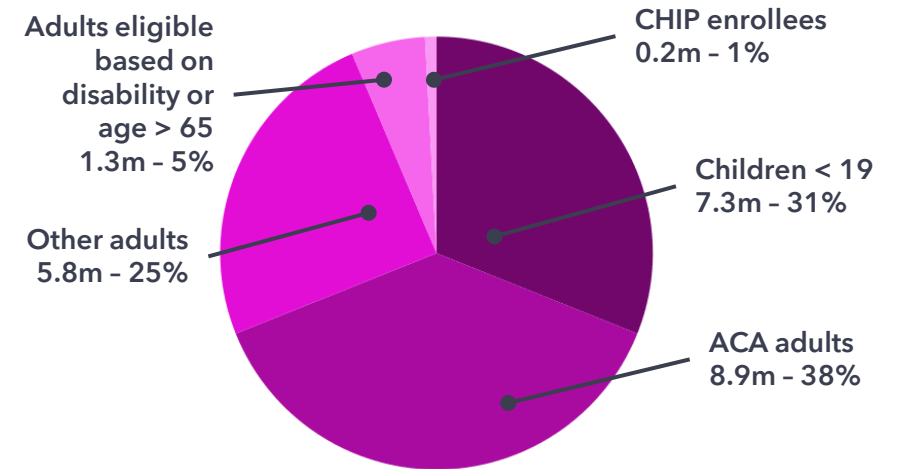
Digital health cluster by # of partnerships, 2012 - 2022	Total US health systems partnerships in 2022	Most US health systems partnerships since 2012
Health mgmt solutions	57	TRUVETA
Patient solutions	28	LocusHealth
Telemedicine	14	HRS Health Recovery Solutions
Pop health management	42	dispatch health®
Medical diagnostics	37	TEMPUS
Research solutions	11	COFACTOR genomics

Editorial: The report by Galen Growth and Finn Partners found Mayo Clinic as the org with the most digital health partnerships at 76, followed by Mass General Brigham (40), CommonSpirit Health (35), and Mount Sinai (34). The largest health system in the US, HCA Healthcare (182 hospitals), has 14 digital health partnerships. The VA is second-largest (171 hospitals). They have 16 digital health partnerships. DispatchHealth and Truveta are the US-based digital health ventures with the most US partnerships, each with 19. Tempus was third with 18. BioSerenity and Proximie are the Europe-based solutions with the most US deals, each at three. Biofomis is the APAC-based leader with four. The full report is available for free at the link below.

Ten things to know about the unwinding of the Medicaid continuous enrollment provision

1. Medicaid enrollment has increased since the start of the pandemic, primarily due to the continuous enrollment provision.
2. KFF estimates that between 5 million and 14 million people will lose Medicaid coverage during the unwinding of the continuous enrollment provision.
3. The Medicaid continuous enrollment provision has stopped “churn” among Medicaid enrollees.
4. States have developed plans for how they will approach the unwinding of the continuous enrollment provision.
5. Maximizing streamlined renewal processes can promote continuity of coverage as states begin to unwind the continuous enrollment provision.
6. States can obtain temporary waivers to pursue strategies to support their unwinding plans.
7. Certain groups may be at greater risk for losing Medicaid coverage during the unwinding period.
8. States can partner with MCOs, community health centers, and other partners to conduct outreach.
9. Timely data on disenrollments and other metrics will be useful for monitoring how the unwinding is proceeding.
10. The number of people without health insurance could increase if people who lose Medicaid coverage are unable to transition to other coverage.

Medicaid children, adults eligible through the ACA, and other adults comprised the vast majority of Medicaid enrollment growth



Total enrollment growth 23.3 million (2/20-3/23)

KFF

Editorial: The KFF brief linked below describes 10 key points about the unwinding of the Medicaid continuous enrollment provision, highlighting data and analyses that can inform the unwinding process as well as legislation and guidance issued by the Centers for Medicare and Medicaid Services (CMS) that lay out the rules states must follow during the unwinding period and the flexibilities available to them. Digital health can be a useful tool in helping the industry handle the large re-enrollment task ahead.

Realizing the potential of accountable care in Medicaid



From the researchers' conclusion

The literature and key informant interviews bring into relief several key insights about Medicaid ACOs.

1. States with advanced primary care, a history of value-based purchasing, and a compelling mandate for change are fertile ground for ACOs.
2. And upfront investments in data and delivery system transformation can help their ACOs succeed — whether this is from new federal funds, states, or MCOs.
3. It is also clear that providers cannot effectively respond to multiple, diverging incentive models, so state policymakers need to either centralize or coordinate ACO contracts in multi-payer and managed care environments.
4. Finally, broader adoption of ACOs in Medicaid may require additional flexibility from CMS for states to build models that meet local needs and provider capabilities.

Federal policymakers have a number of opportunities to support state innovation in the ACO space.

1. First, CMS should consider whether the 1115 demonstration approval process and requirements for ACO initiatives can be streamlined to lower the barriers to entry and allow states to tailor ACOs to their contexts. A more expedited review process could also be beneficial. Demonstration approvals can take as long as a year, making it hard for states to maintain momentum and stakeholder engagement.
2. Second, CMS should continue to offer information and shared learning opportunities for Medicaid decision-makers, including clear guidance on common stumbling blocks such as federal rules that limit downside risk sharing with FQHCs.
3. Finally, in states where both Medicaid agencies and providers have comparatively limited resources, new federal funds could jumpstart ACO implementation and support rigorous evaluation.

Findings on the impacts of Medicaid ACOs

Findings (n=30)	# Studies
Positive findings	
Quality improved	17
Preventable utilization decreased	10
Savings	6
Disparities improved	3
Negative findings	
Increased emergency department visits	1
Decreased primary care utilization	1

Notes: Studies with significant findings across multiple measure types are counted more than once. Only findings that were deemed by the study authors to be statistically significant (typically at the 95% confidence level) were included.

Editorial: Researchers at Harvard (Public Health) identified 30 key studies in the literature for analysis that support the importance of accountable care efforts in the Medicaid population. Virtually all showed some positive impacts with only two revealing negative findings. The study is reported by Commonwealth Fund and linked below. Note that we are also linking a Health Affairs Forefront series on Accountable Care for Population Health, with articles to be published throughout the year.

Companies mentioned in this report

1up Health	binx health	Crystal Run Healthcare	Google	KPMG	Nomad	Salesforce	Tricog Health
3M	Biofourmis	CVS	Grapefruit Health	Lark	Norstella	Saluda Medical	TriNetX
Accenture	BioSerenity	Deloitte	Greenway Health	LexisNexis	Olive	Sandoz	Truepill
Access TeleCare	Blue Note Therapeutics	Dario Health	Hatch	Lightbeam Health	Omy Laboratories	Scan.com	Trusted Health
AccessOne	Bluestream Health	Dispatch Health	Headspace Health	Livongo	Optum	ScanSTAT	Truveta
Adobe Systems	Bpifrance	Doc Abode	Headway	Locus Health	Oracle	Scene Health	Twentyeight Health
Advantmed	Bright.md	DoseSpot	Health Catalyst	Lumeon	Oshi Health	ScriptDrop	TymphaHealth
Aetna	CareAllies	Doxy.me	Health Fidelity	m.Doc	Osigu	Secure Exchange	Uber Health
Akili	Caregility	Dozee	HeartFlow	Mahana	Oura	SentiAR	Updox
Aktiia	CarePayment	Dropstat	Hopper Health	MCG Health	Owkin	Servinte	Vatica Health
Albertsons	Caristo Diagnostics	eClinicalWorks	HRS	MDLIVE	OXOS Medical	Sidekick Health	Veradigm
Alma	Cedar	eConsult	Human API	MedArrive	Paloma Health	SilverCloud Health	Verisma
Alphabet	Cedar Gate Technologies	Elation Health	Hypercare	MedInsight	Paradigm	SimpleHealth	Verizon
Amazon	Censinet	ELLKAY	Hyphen	MedRhythms	Pareto Intelligence	Sondermind	Vida
Amelia Virtual Care	CenterX	Engage Technologies	Inato	MedShift	Path	Spring Health	Violet
Amwell	CGM	Epic	Incredible Health	Memora Care	PathologyWatch	Sprinter Health	Visionable
Andor Health	Change	Epic Sciences	InformMe	Mend	Pear Therapeutics	SQUID iQ	VSee
Apixio	Chiefly	Episource	Inovalon	Meta	Phlo	Stellar Health	Vytalize Health
AppliedVR	Ciox	eVisit	Instacart	Microsoft	Prodigo Solutions	Story Health	Walgreens
Apprentice.io	ClearBalance	EXL	IntelyCare	MilkMate	Propeller Health	Supportiv	Watkins-Conti
APX Platform	Clearday	EY	InterSystems	Momo Medical	Prosoma	Sweetch	Waystar
Arcadia	Click Therapeutics	Felix	IoT Solutions Group	Monument	Proximie	Talix	Welldoc
AT&T	Clinerion	Femspace	Itiliti Health	MOONHUB	PwC	Tally Health	Wellth
athenahealth	Clue	FinThrive	John Snow Labs	Moxe	Recuro Health	Tegria	Xealth
Augmedix	Cofactor Genomics	Florence	Johnson & Johnson	MRO	RhythmScience	Teladoc	XRHealth
Availity	Cohere Health	Flyte	Jude	Mytonomy	Risant Health	Tempest	Xsolis
Azara Healthcare	Compassly	Gartner	Kaia Health	Navenio	Riva	Tempus	Zimmer Biomet
Babblevoice	Cortica	Gather Health	Kaiser Permanente	Neteera	Rocket VR Health	Teton.ai	Zocalo
Best Buy	Cost Plus Drug	Geisinger	Kare Mobile	NextGen Healthcare	Rose Health	The TeleDentists	
Better Therapeutics	Cotiviti	GHX	Kareo	Nielsen	RxPlace	TreatRx	