Strategic Intelligence
Medical Devices

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Digital Health

Contents

Executive Summary

Digital health is revolutionizing care

The healthcare industry is being overhauled from traditional pen-and-paper methods to complete digitalization. This includes patient monitoring, communication methods, data storage, and more.

The COVID-19 pandemic altered the landscape for the healthcare industry as a whole, including medical devices. Digital methods of care were introduced rapidly to accommodate for the number of patients and the need to social distance. Since then, digital health methods have advanced and continue to, changing how patients receive care. The medical devices industry has been slower to turn completely digital due to cybersecurity concerns, regulations, and various complexities within the industry.

Digital health has already begun to revolutionize care, and has the potential to improve the medical industry further. It can increase physicians' ability to accurately diagnose and treat patients, as well as enhance the overall delivery of healthcare for patients. The technologies include both hardware and software solutions, and enable rapid and inexpensive communications. Digital health also gives healthcare professionals a more holistic view of patient health, and gives patients more control over their health. Digital health can reduce inefficiencies in patient care, improve access to care, reduce healthcare costs, increase healthcare quality, and personalize healthcare for patients.

Digital health will continue to transform healthcare by leveraging technologies like remote patient monitoring, mobile health, big data, and more. Digital health will also continue to evolve through artificial intelligence (AI) and machine learning (ML) advancements that will enhance the various components of digital health devices.

Leaders

There are many important components to digital health, but three of the key markets are remote patient monitoring, mobile health, and big data. The leaders in all three markets are listed below.

Remote patient monitoring

Abbott Laboratories, Boston Scientific, DexCom, GE Healthcare, Philips, Medtronic, Omron.

Mobile health

Abbott Laboratories, Philips, Samsung Electronics, Dexcom, Medtronic, Epic Systems, Siemens Healthineers, Allscripts, Alphabet, Johnson & Johnson.

Big data

GE Healthcare, Philips, McKesson, Oracle, Danaher, Medtronic, Thermo Fisher Scientific, Illumina, Siemens Healthineers.

Inside

Related reports

- Regulated mHealth Apps
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Report type

- **Single theme**
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Players

The digital health market is separated into three main segments: remote patient monitoring, mobile health, and big data. All of the segments play an important role in the digital health value chain. The graphic below outlines the key players in the digital health theme and which companies are leaders and disruptors in all three segments.

Who are the leading players in the digital health theme, and where do they sit in the value chain?

Digital health markets	Leaders		Challengers	
Remote patient monitoring	Abbott Laboratories	Philips	Masimo	Accuhealth
	Boston Scientific	Medtronic	Baxter International	F. Hoffmann-La Roche
	DexCom	Omron	Respiri	Biotricity
	GE Healthcare		ResMed	Universal Biosensors
Mobile health	Abbott Laboratories	Philips	CareCloud	Baxter International
	DexCom	Samsung Electronics	Omron	AliveCor
	Medtronic	Siemens Healthineers	eClinicalWorks	PainChek
	Allscripts	Johnson & Johnson	Medidata Solutions	
	Epic Systems	Alphabet	F.Hoffmann-La Roche	
Big data	GE Healthcare	Philips	Flatiron Health	Agilent Technologies
	McKesson	Oracle	Biotronik	Medidata Solutions
	Danaher	Thermo Fisher Scientific	Innovaccer	Becton Dickinson
	Medtronic	Siemens Healthineers	Abbott Laboratories	Honeywell International
	Illumina			

Source: GlobalData

Technology Briefing

Remote patient monitoring

Remote patient monitoring devices are used to retrieve and transmit data through a wireless system to a monitoring station or a physician's office for further analysis and interpretation. The collection and transmission of data outside traditional points of care allows patients to remain at home and to receive a follow-up only if their condition warrants it. This enables equality in healthcare access for patients with a physical, economic, or other barrier. Additionally, remote patient monitoring devices provide patients with the ability to better manage their chronic conditions and understand contributing factors to their specific pathologies. Non-invasive technologies are now commonly being integrated with remote patient monitoring technology, where a hospital can be alerted if abnormalities are detected.

The primary goal of remote patient monitoring devices is to accurately collect a wide range of health data for a patient, such as blood pressure, heart rate, vital signs, weight, and blood sugar levels. While the integration of remote patient monitoring into the healthcare system is relatively new, the COVID-19 pandemic greatly expedited their adoption rate. Remote patient monitoring became one of the fastest growing and most in-demand industries in 2020 and 2021, helping to improve workflow and lift the burden from overworked health systems throughout the pandemic. Since then, remote patient monitoring devices have demonstrated their potential to improve patient care, reduce readmissions, and facilitate early discharge.

Mobile health

Mobile health is a term to describe the combination of wireless technology and healthcare. There are several categories within mobile health, including mHealth apps and electronic medical record (EMR) systems. Mobile health can be used in a number of ways, such as tracking health information, scheduling appointments, monitoring diseases or symptoms, testing for diseases, treating diseases, and more. Mobile health has proved to be very beneficial, such as during the peak of the COVID-19 pandemic as it helped with appointment booking for both tests and vaccines, telehealth capabilities, and connecting patients to various healthcare services.

Mobile health apps

mHealth apps can be downloaded onto tablets or cell phones and used through said devices. They allow easy access to medical care, and there are several different types of mHealth apps with varying uses. Some mHealth apps include health management apps, medication management apps, and regulated mHealth apps. Health management apps are some of the most popular and accessible mHealth apps. They can often be downloaded without a prescription, and they are usually used for health and wellness purposes. Types of health management apps include fitness apps, calorie counters, mood management apps, apps for sobriety, sleep management apps, and more.

Medication management apps help patients keep track of their medications. This includes reminding patients when to take them, educating patients on instructions and side effects, and more. Similar to health management apps, medication management apps generally do not need a prescription to access, but they may come recommended to patients by their healthcare providers.

Regulated mHealth apps are the category of apps that are often used by healthcare providers. If and when they are used by patients, it is usually at the instruction of or in conjunction with a healthcare provider. These types of apps include data management apps, diagnostic apps, telehealth apps, or medical education apps. They are especially useful when healthcare providers are away from their desks and need to access certain medical databases or references.

Electronic medical record systems

Electronic medical record (EMR) systems are digital versions of paper-based patient medical records used primarily within a single healthcare organization. These systems streamline the management, storage, and retrieval of patient information, enhancing clinical efficiency and improving quality of care. EMR systems are integral to healthcare, allowing clinicians to access and update patient data in real time.

EMR systems typically include features for recording patient demographics, medical history, diagnoses, medications, immunization dates, lab test results, and treatment plans. Many systems incorporate decision-support tools, such as alerts for drug interactions or reminders for preventative screenings. EMRs also often support computerized physician order entry and clinical documentation.

EMR systems improve the accuracy and accessibility of patient data, reducing errors caused by illegible handwriting or misplaced files. They facilitate better coordination of care by enabling multiple providers within the same organization to access a unified patient record. They also support data analytics, helping providers identify trends, monitor population health, and measure outcomes.

Big data

Big data is data that is so voluminous and complex that traditional data-processing application software is inadequate to deal with it in its entirety. Big data enables enhanced diagnostics, personalized treatments, and improved patient devices. Medical devices, ranging from wearables to advanced imaging equipment, generate vast amounts of data every day. This data, when properly analyzed, provides valuable insights into patient health, disease progression, and treatment effectiveness.

One of the primary drivers of big data in the medical industry is the proliferation of connected devices. Wearable devices such as smartwatches continuously monitor parameters like heart rate, blood oxygen levels, and physical activity. The collected data is transmitted to cloud-based systems, where it can be aggregated and analyzed in real time. Big data can also enhance functionality of traditional medical devices. For example, imaging devices like magnetic resonance imaging (MRI) and computed tomography (CT) scanners now incorporate machine learning algorithms that analyze complex datasets to identify subtle patterns and abnormalities that might be missed by the human eye.

Trends

The main trends shaping digital health over the next 12 to 24 months are shown below. We classify these trends into three categories: technology trends, macroeconomic trends, and regulatory trends.

Technology trends

The table below highlights the key technology trends impacting the digital health theme.

Trend	What's happening?
Artificial intelligence	Artificial intelligence (AI) refers to software-based systems that use data inputs to make decisions on their own. In the medical devices industry, AI is a key driver of innovation and will continue to be in the future through management of chronic diseases, improving imaging, and integrating IoT into devices and platforms. AI will continue to influence digital health through clinical decision support, automating clinical documentation and streamlining administrative workflows, and generating insights from vast datasets. Predictive analytics is also enhancing personalized medicine and operational efficiency by forecasting health risks and optimizing treatment plans.
3D printing	3D printing or additive manufacturing is the process of joining materials to make objects from three-dimensional model data, usually layer upon layer. Because of the high value and viability of 3D printing, it is expected that many new companies will make use of it, and new uses will become common in the coming years. 3D printing is revolutionizing digital health, enabling innovative solutions across multiple medical domains, such as personalizing medical devices, patient-specific implants, tissue engineering and bioprinting, surgical planning and training, rapid prototyping of medical tools, and producing affordable medical solutions.
Cybersecurity	As healthcare systems digitalize, protecting sensitive patient data is critical. Enhanced cybersecurity measures are being implemented by many medical device companies to prevent breaches and maintain system reliability. Cybersecurity is impacting digital health in a number of ways, particularly in areas of patient data and connected devices. Certain connected devices, such as pacemakers, insulin pumps, and wearables, are particularly vulnerable to cyberattacks, and such attacks could exploit these devices to steal data or disrupt the device functionality. Ransomware attacks have also become a significant threat in healthcare, with hackers targeting hospitals and healthcare providers. Organizations are investing in robust disaster recovery and incident response plans to minimize downtime and data loss during such attacks.
Robotics	Robotics can significantly transform digital health by improving precision, efficiency, and accessibility across various medical applications. Surgical robots have revolutionized surgical procedures by providing greater accuracy and reducing the invasiveness of surgeries. Additionally, robotics have the potential to significantly reduce the workload for healthcare professionals, allowing them to focus on more complex tasks that require human intervention. Robotics is also pivotal in the realm of remote patient monitoring and preventative care. Drones and consumer robots can deliver medications to patients in remote areas, ensuring that healthcare services reach underserved populations.

Trend	What's happening?
Wearable tech	Wearable tech is reshaping digital health by enabling continuous health monitoring, personalized care, and proactive interventions. Wearables can monitor biometric signals in real time across a large population, reducing the need for constant oversight by healthcare professionals. They are also being used to collect data for research purposes and to aid in preventative medicine, real-time diagnostics, and therapeutic delivery. As technology evolves, wearables are moving beyond traditional functions to provide continuous, non-invasive health monitoring, enhancing patient care. Wearables often work in conjunction with mHealth apps, enhancing their functionality and user experience.
Personalized and precision medicine	Multi-omic technologies and advanced data analytics are paving the way for highly personalized care, enabling tailored interventions and treatments based on genetic, proteomic, and other biological insights. By analyzing a patient's genetic makeup, clinicians can identify genetic predispositions to diseases, tailor drug therapies, and predict treatment responses.
Blockchain	Blockchain is an electronic ledger of transactions that are continuously maintained in blocks of records. The ledgers are jointly held and run by all participants. Coupled with cryptographic security, this makes them tamper-proof (at least in theory). Blockchain will become a powerful tool in healthcare, as it will ensure medical data can be analyzed by multiple people while maintaining data security. One of the primary challenges in healthcare is the disconnection of health records due to a lack of standardized data architectures. Blockchain can facilitate the seamless exchange of health-related data among various stakeholders, including healthcare providers, patients, and researchers. This interoperability allows for a comprehensive view of patient data, which can lead to improved clinical outcomes and more personalized treatment pathways.
Cloud computing	The requirement to archive, analyze, and interpret high volumes of datasets from digital health devices has encouraged several companies to implement cloud computing solutions. Cloud computing has the potential to transform the landscape of digital health by enabling more efficient data management, enhancing patient care, and facilitating the integration of emerging technologies.
Internet of Things (IoT)	IoT is an umbrella term referring to the ability of everyday physical objects to connect with other devices over the internet, enabling them to send and retrieve data. IoT in the medical devices industry has allowed streamlined processes and enabled healthcare professionals to complete tasks in a timely manner. IoT-enabled medical devices provide critical data that assists healthcare professionals in their jobs, as most digital health devices have some form of connectivity function. IoT will continue to enhance patient monitoring and management through the facilitation of continuous health monitoring, as well as alleviate the burden on healthcare professionals through enabling remote patient monitoring.
Virtual and augmented reality	Virtual and augmented reality (VR and AR) are emerging technologies that are increasingly being integrated into the digital health sector. VR and AR are being adopted by consumer companies for training purposes, which can be extended to the medical sector. These technologies provide immersive environments for medical training. In the realm of patient care, VR and AR can be used to create simulations to help patients understand their conditions and the procedures they will undergo. This can improve patient engagement and compliance with treatment plans.

Source: GlobalData

Macroeconomic trends

The table below highlights the key macroeconomic trends impacting the digital health theme.

Trend	What's happening?
Patient consumerism	The increase in digital engagement of physicians and healthcare facilities with mHealth apps, wearable tech, remote patient monitoring, and EMR systems is just the beginning. Patient consumerism enables a patient to be a knowledgeable and savvy consumer of their medical needs. Because the patient is playing an active role in purchasing and consuming medical services, they are a major driver of the medical devices industry. Additionally, companies are being pressured to address disparities in access to digital health technologies, especially in underserved populations. The demand for adoption of these digital services is clear, and healthcare providers must keep up.
Economic uncertainty	Rising interest rates and tighter monetary policy may lead to reduced venture capital funding for startups in digital health, emphasizing the need for profitability and sustainable business models. Public healthcare systems and insurers may also face tighter budgets, pushing digital health companies to demonstrate clear return on investment (ROI) and cost-effectiveness. As economic uncertainty affects budgets and financial security, healthcare providers may face challenges in adopting new technologies. This could lead to a slower integration of innovative digital health solutions into everyday practice, as providers may prioritize cost management over new investments.
Staff shortages	Persistent labor shortages in healthcare are driving demand for digital tools that optimize workflows, reduce administrative burdens, and enhance patient care through automation. Digital health technologies, such as remote patient monitoring, are increasingly viewed as essential tools to alleviate staffing pressures. AI- and IoT-enabled technologies can automate various administrative functions, which can reduce the workload on healthcare staff.
Pandemic preparedness	Because of the significant impact of COVID-19 on the population and healthcare systems globally, many governments and organizations are investing in digital health tools and solutions to enhance preparedness and response capabilities. Digital health proved an essential tool during COVID-19 to maintain continuity of care while minimizing the risk of virus transmission, but the pandemic necessitated a rapid shift in care. Many healthcare systems were unprepared not only for the pandemic, but also the switch to digital health methods over traditional pen and paper.
Inflation	Inflation in healthcare costs may drive consumers to seek cost-effective digital health solutions. The inflationary environment has prompted patients to consider out-of-pocket costs more seriously when selecting treatment plans, which can affect their engagement with digital health solutions. As patients prioritize affordability, they may opt for less-expensive alternatives or delay necessary treatment, thereby impacting the overall utilization of digital health technologies.
Rising healthcare costs	Healthcare costs have been on the rise globally due to factors such as an aging population, the increasing prevalence of chronic diseases, and expanded access to healthcare services. These rising costs compel healthcare systems to seek more cost-effective solutions without compromising the quality of care. Digital health technologies such as digital therapeutics and mHealth apps are seen as viable options to deliver interventions remotely, monitor patients in real time, and promote preventative care.

Source: GlobalData

Regulatory trends

The table below highlights the key regulatory trends impacting the digital health theme.

Trend	What's happening?
FDA regulation of mobile health apps	The exponential growth of mHealth apps has prompted the FDA to explore new regulatory frameworks that balance innovation with safety. In 2015, the FDA categorized these apps into high-risk and low-risk categories, intending to regulate only those that could potentially harm patients. However, many mHealth apps have been found to make clinical claims without sufficient scientific backing, raising concerns about their efficacy and safety. The FDA has acknowledged the potential benefits of mHealth apps, particularly in the context of insights for public health, and continues to refine its regulatory approach to foster trust among users and healthcare providers.
Software as a medical device (SaMD)	In Europe, the Medical Device Regulation and In Vitro Diagnostic Device Regulation have introduced specific considerations for software that qualifies as a medical device. This includes any digital health app or platform intended for medical purposes, such as diagnosis or treatment. The evolving nature of technology means that regulations may lag behind advancements, potentially creating barriers to market entry for new products. Unlike the EU, the FDA's approach is function-based, focusing only on software that poses a safety risk rather than all software intended to benefit patients.
Data protection	The Health Insurance Portability and Accountability Act (HIPAA) in the US and the General Data Protection Regulation (GDPR) in the EU serve as critical frameworks for protecting patient data privacy and security. The GDPR, enacted in 2018, has led to significant compliance efforts among organizations handling personal data, with strict penalties for violations. This regulatory environment is crucial as digital health tools increasingly handle sensitive patient information, necessitating robust data management practices to prevent breaches and protect user privacy.

Source: GlobalData

Industry Analysis

This section covers how big the theme is, how fast it will grow, its timeline, and how the theme will develop.

Market size and growth forecasts

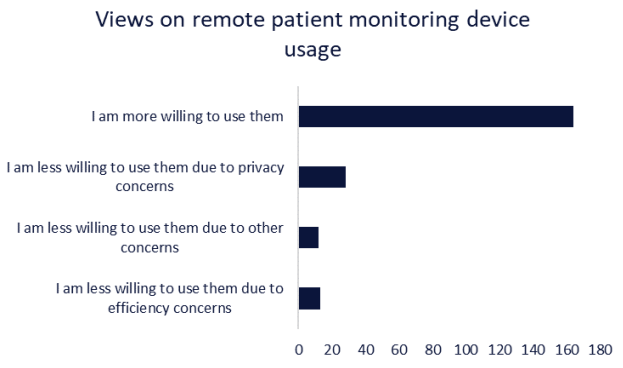
One of the key digital health markets is remote patient monitoring. Remote patient monitoring devices are technologies and services used to monitor, analyze, and capture the health data of patients to send information to healthcare professionals for further evaluation. The COVID-19 pandemic rapidly increased the adoption rates of remote patient monitoring devices, as they improved workflow at healthcare facilities and helped lift the burden from overworked healthcare systems.

Remote patient monitoring devices were one of the fastest-growing and most in-demand industries in 2020 and 2021, and they have demonstrated their potential to improve patient care, reduce readmissions, and facilitate early discharge. However, despite the proven benefits, many patients were wary about remote patient monitoring devices, especially pre-pandemic, due to the various issues that still need to be addressed, such as data security, data accuracy, and system integration. A GlobalData poll conducted in April 2024 asked respondents about their current views on remote patient monitoring devices compared to before the pandemic. Out of 217 respondents, more than half (164) said they are more willing to use them now, showing the growing acceptance of these devices.

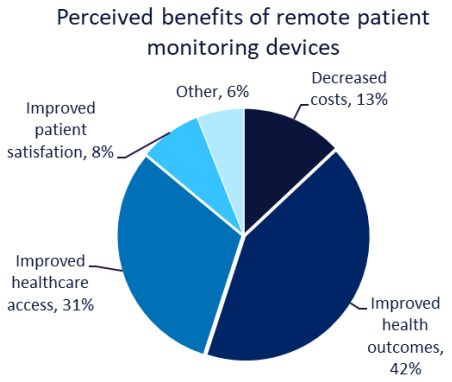
Another GlobalData poll, conducted in March 2024, asked respondents about the main benefits that they believe remote patient monitoring devices offer. Of the 211 respondents, 42% believe the main benefit of remote patient monitoring devices is improved health outcomes, while 31% believe the main benefit is improved healthcare access.

Remote patient monitoring acceptance and benefits

What are your current views on remote patient monitoring devices compared to before the pandemic?



What do you think is the main benefit of remote patient monitoring devices?

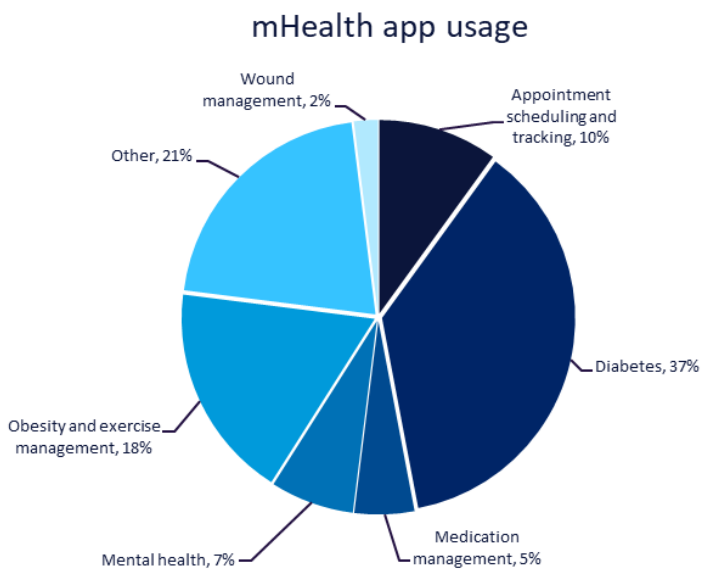


Source: GlobalData

Another key market in digital health is mobile health. Similar to remote patient monitoring devices, mHealth apps and EMR systems have been adopted quite quickly, in part due to the COVID-19 pandemic. While the use of mHealth apps has increased quickly in recent years, they have been around for quite a while, especially health and wellness mHealth apps (calorie counters, fitness trackers, sleep trackers, etc.). However, multiple types of mHealth apps are being used more frequently and adopted by not only consumers, but healthcare professionals as well. A GlobalData poll conducted in January 2024 asked respondents what indications they use mHealth apps for. Out of the 2,019 respondents, the top answers were diabetes (82), other (46), and obesity and exercise management (39).

mHealth app indications

What indications do you use mobile health apps for?



Source: GlobalData

The overall mHealth app market has grown significantly since the start of the COVID-19 pandemic. The regulated mHealth app market specifically is growing quickly, as more healthcare professionals are incorporating these devices in platforms into their regular use. GlobalData forecasts that the total regulated mHealth app market will reach sales of $15.6 billion by 2033. As per the above poll results, diabetes apps are growing in popularity. According to GlobalData, type 1 and type 2 diabetes apps will see considerable growth during 2023–33 in both market value and volume.

Timeline

The major milestones in the journey of the digital health theme are set out in the timeline below.

The digital health story

How did this theme get here, and where is it going?

1924	A speculative cover of Radio News magazine showed the use of radio for medical consultation.
1948	Technology advanced and one doctor sent X-ray images over telephone wires to another doctor in Pennsylvania.
1949	Introduction of the first stored-program computer (EDSAC), which later inspired computational applications in healthcare.
1967	The US National Library of Medicine launched MEDLINE, a database of medical literature.
1972	Lockheed introduced the first commercial EMR system , known as Technicon Medical Information System (TDS).
1973	The first call on a mobile phone was made by Martin Cooper using the Motorola DynaTAC 8000X.
1979	Introduction of the first portable glucose monitor, enabling point-of-care diabetes management.
1983	IBM released its first commercially available relational database, DB2.
1985	Telemedicine trials began to connect rural areas to specialized healthcare facilities.
1989	The FDA released its first general policy on regulation of computer or software-based products.
1993	The American Telemedicine Association was founded.
1994	WebMD was launched, one of the first online platforms providing health information.
1996	The Health Insurance Portability and Accountability Act (HIPAA) introduced requirements for secure electronic health data.
1998	The first FDA-approved digital pill (drug delivery capsule) laid the groundwork for ingestible sensors.
2002	Amazon Web Services (AWS) launched as a free service.
2004	The US government launched the Office of the National Coordinator for Health IT to promote electronic health records.
2007	Introduction of the first iPhone, catalyzing the mobile health revolution.
2008	Fitbit launched its first wearable tracker.
2009	The American Recovery and Reinvestment Act of 2009 (ARRA) drove digital connectivity in medical technology.
2010	The launch of IBM Watson for Healthcare.
2014	The number of mobile devices exceeded the world population.
2015	FDA approval of the first digital therapeutic app (reSET) for addiction treatment.
2016	HRSA received funding to expand the use of telehealth in rural areas.
2018	Apple Watch Series 4 introduced FDA-cleared ECG monitoring.
2020	The COVID-19 pandemic accelerated digital health device adoption globally.
2023	AI applications in healthcare gained significant traction.
2025	Digital health tools will be a mainstream treatment option for chronic diseases and mental health.
2027	The data analytics market is projected to reach $188.8 billion.
2030	The remote patient monitoring market is expected to exceed $760 million.
2033	The regulated mHealth app market value will reach $15.6 billion.

Source: GlobalData

Signals

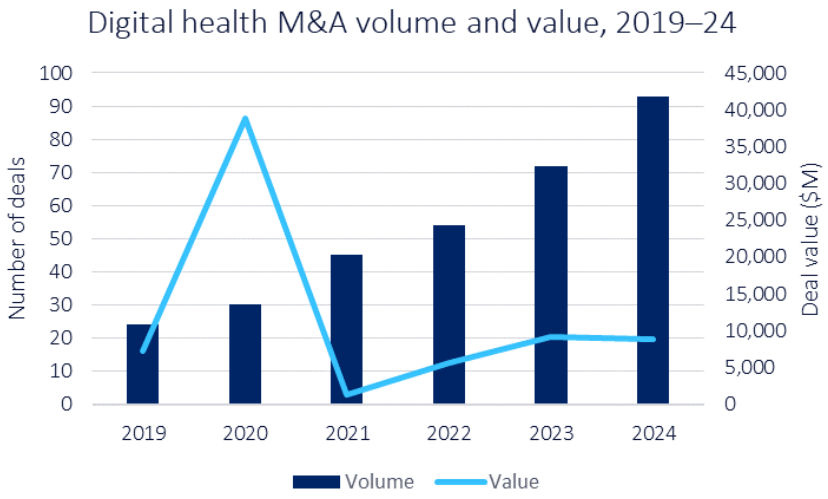
This section uses the over 180 million signals generated by GlobalData's thematic engine to predict how the digital health theme will develop and identify the likely leaders. These signals are a useful source of competitor intelligence in the digital health market.

M&A trends

The graph below outlines the M&A trends and activity in digital health over the last five years. Deal value spiked significantly in 2020, which is expected because of the rapid adoption of digital health tools at the start of the COVID-19 pandemic. Since then, the number of deals has continued to rise, but the value has declined. There could be a number of reasons for the decline in deal value, including smaller deals dominating the market and economic uncertainty causing caution. Additionally, the digital health market may be experiencing a correction after the inflated valuations in 2020, as high-value deals could have been driven by hype and need as opposed to sustainable business models.

Digital health M&A volume and value

Deal values have significantly declined since 2020



Source: GlobalData

The key M&A transactions associated with the digital health theme since June 2024 are listed in the table below.

Date announced	Acquirer	Target	Value ($M)	Target company description
Dec 2024	Minitab	Simul8	Not disclosed	Provider of advanced simulation modeling software
Dec 2024	Redmoor Health	The Well Led Practice	Not disclosed	Provider of digital diagnostic tools, evidence-based guidance, and tailored workshops
Dec 2024	Healwell AI	Mutuo Health Solutions	4	Medical technology company

Date announced	Acquirer	Target	Value ($M)	Target company description
Nov 2024	DD Group	Sigma Net Sante	Not disclosed	Supplier of dental equipment and specialized software solutions
Oct 2024	Solina Chau	WELL Health Technologies	59	A digital health technology company
Oct 2024	Reveleer	Curation Health	Not disclosed	Provider of clinical insights of patient data
Sep 2024	Winner Medical	Global Resources International	120	Medical device manufacturer
Sep 2024	Veridian Healthcare	Zewa	Not disclosed	Supplier of a suite of consumer retail, telehealth, and remote patient monitoring devices
Aug 2024	PrivaPath Diagnostics	Truepill	525	Developer of a telehealth platform
Aug 2024	Stryker	Care.ai	Not disclosed	Provide of AI-assisted virtual care workflows, smart room technology, and ambient intelligence solutions
Aug 2024	Novo Holdings	Oxford Nanopore	64	Developer of disruptive, electronic, and single-molecule sensing systems
Jul 2024	Guardant Health	Obvio Health	18	A virtual research organization that conducts clinical trials virtually
Jul 2024	QuVA Pharma	LogicStream Health	Not disclosed	SaaS software informatics platform that provides cloud-based intelligence to healthcare systems
Jul 2024	Quest Diagnostics	LifeLabs	984	Provider of laboratory diagnostic services
Jun 2024	HEALWELL AI	VeroSource Solutions	18	Provider of data analysis and communication services for improvement of patient outcomes
Jun 2024	Cooper Surgical	ZyMot Fertility	Not disclosed	Provider of fertility solutions, digital services, and assisted reproductive technology therapy
Jun 2024	ResMed	Inhealthcare	Not disclosed	Provider of remote patient monitoring and virtual wards

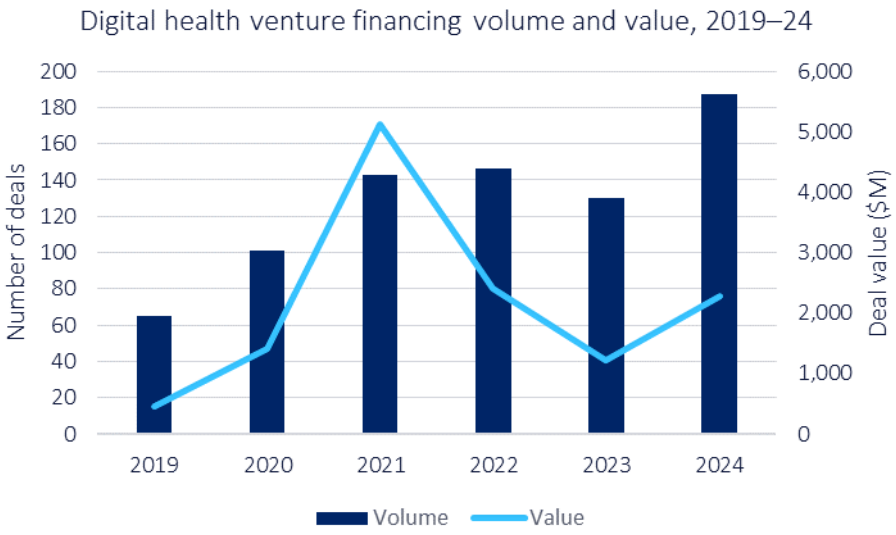
Source: GlobalData

Venture financing trends

The graph below outlines the venture financing activity in the digital health theme since 2019. Similar to the M&A graph, this shows that deal value and volume peaked with the COVID-19 pandemic. However, the value did not decline quite as drastically as the M&A value did. There still was some correction after the peak though, and the deal value fell. In 2024, the deal volume exceeded pandemic numbers, but the value has not reached its peak.

Digital health venture financing volume and value

Value is highest in 2021, volume is highest in 2024



Source: GlobalData

The key venture financing deals associated with the digital health theme since June 2024 are listed in the table below.

Date announced	Company	Amount raised ($M)	Company description
Dec 2024	Hangzhou Nansu Technology	Not disclosed	Manufacturer of medical devices, including digital therapy products
Dec 2024	Cleerly	106	A digital healthcare company
Dec 2024	52 North Health	6	A medical equipment manufacturing company
Nov 2024	ARCH	6	Provider of fertility treatments
Nov 2024	Jimini Health	8	A digital healthcare company
Nov 2024	Vitara Biomedical	50	Provider of neonatal care services through a therapeutic platform
Nov 2024	TCC	22	Provider of digital telemedicine solutions

Date announced	Company	Amount raised ($M)	Company description
Oct 2024	MX Healthcare	8.9	Provider of an AI-enabled early breast cancer detection platform
Oct 2024	Aignostics	34	A global AI company that uses multi-modal pathology data to provide insights
Oct 2024	Glooko	100	A digital healthcare company
Sep 2024	Mindpeak	15.3	Provider of AI-powered pathological solutions
Sep 2024	Prickly Pear Health	Not disclosed	Operator of a mental wellness platform
Sep 2024	Qure.ai Technologies	65	Provider of AI-driven diagnostic imaging support tools
Aug 2024	Aware Health	2.2	A digital musculoskeletal care platform
Aug 2024	Curio Digital Therapeutics	Not disclosed	Provider of cognitive behavioral therapy programs
Aug 2024	DreaMed Diabetes	3	Provider of AI-driven diabetes care solutions
Jul 2024	Hop Health	1	Provider of a health tourism digital platform
Jul 2024	Flo Health	200	A women's health platform
Jul 2024	SoundHealth	7	A medical technology company
Jul 2024	Heartbeat Health	25	A healthcare technology company
Jun 2024	Form Health	38	A telemedical weight loss company
Jun 2024	UroMems	47	Provider of implantable mechatronics technology for treatment of stress urinary incontinence
Jun 2024	Ignite Data	8	Provider of digital health software solutions
Jun 2024	Sword Health	30	A technology company that offers virtual physical therapy services

Source: GlobalData

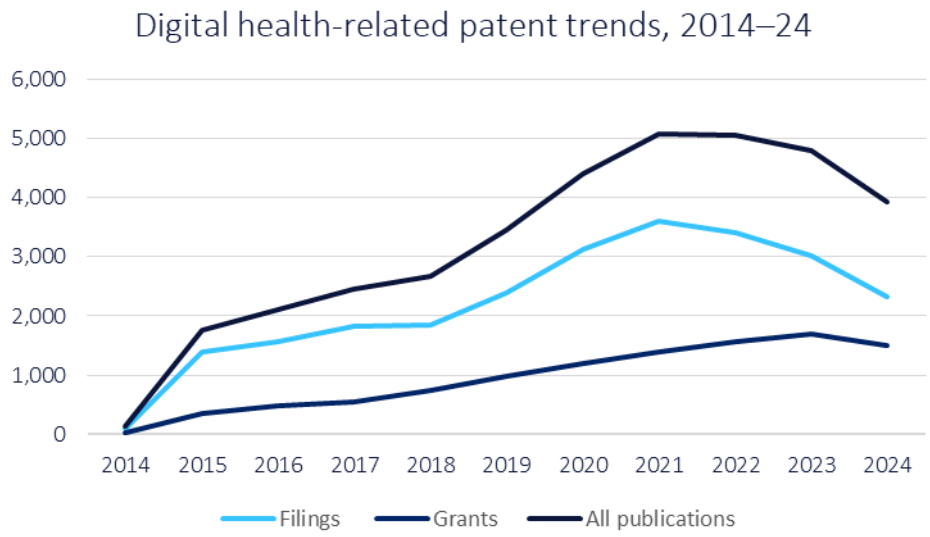
Patent trends

The graph below outlines the patent trend activity over the last 10 years. The filings and all publications categories have followed similar trends, with gradual increases from 2015–18, and then more significant growth from 2019–21. Since then, the patent activity has slowed slightly. The sharper increase leading to a peak in 2021 is not surprising, given the trends in the rest of the digital health market, and can likely be explained by the COVID-19 pandemic. While there has been a decrease in patent trends since 2021, the numbers are still higher than pre-pandemic numbers.

The grants have followed a slightly different trend than the filings and all publications, with a gradual increase each year from 2014–23. Similarly, while the number of grants has decreased slightly since 2023, they are still well above pre-pandemic numbers.

Digital health patent trends, last 10 years

Filings and all publications peaked in 2021



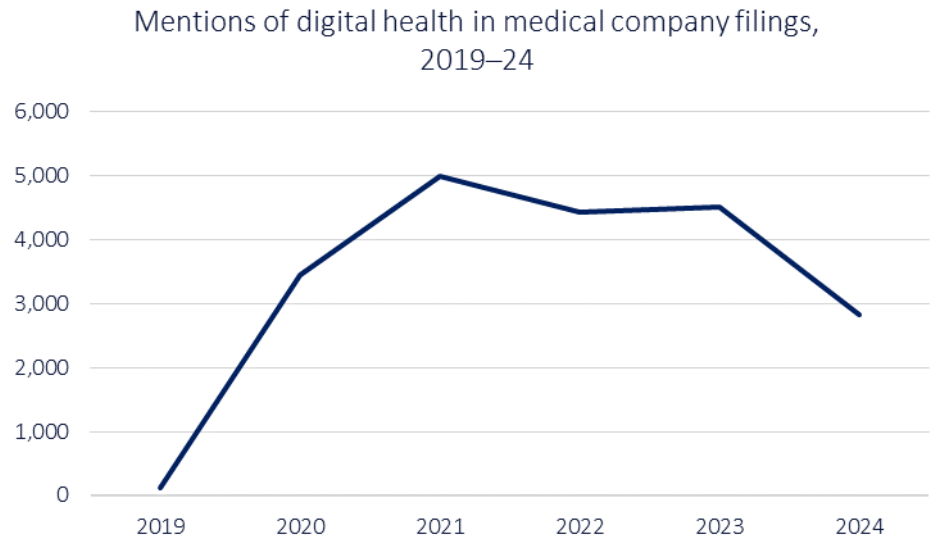
Source: GlobalData

Company filing trends

The graph below shows the mentions of digital health in medical company filings from 2019–24. Similar to other signals, the mentions peaked in 2021, which is consistent with COVID-19 numbers and the rapid adoption of digital health devices. Since then, the numbers have been slowly decreasing. The decrease could be a result of a number of factors, including a shift in strategic focus, economic conditions, and regulatory changes. Additionally, there may be a change or evolution in the terminology that companies use. Some may be using different terms such as health tech, AI-driven care, or focusing on specific technologies (such as telemedicine or remote patient monitoring).

Digital health company filing mentions

Mentions peaked in 2021



Source: GlobalData

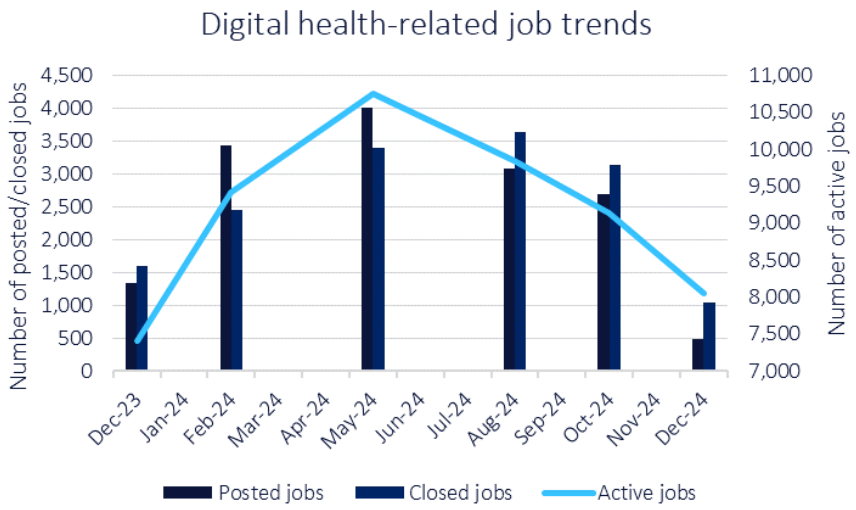
Hiring trends

The graph below outlines the hiring trends over the last year. The posted and closed jobs remained relatively consistent from Q1 2024 to Q4 2024, with numbers peaking in Q2. Active jobs rose from Q4 2023 until Q2 2024, and since then have decreased steadily.

Almost half (47%) of all jobs were located in the US, with India following with 9%. The most active recruiters in the last 12 months are GE Healthcare with 991 active jobs, followed by Align Technology with 625 active jobs. Currently, the top occupation in the medical sector is software and web developers, programmers, and testers, and the top three skills in demand are communication, administrative, and analytical.

Digital health job trends over the last year

Posted, closed, and active jobs all peaked in Q2

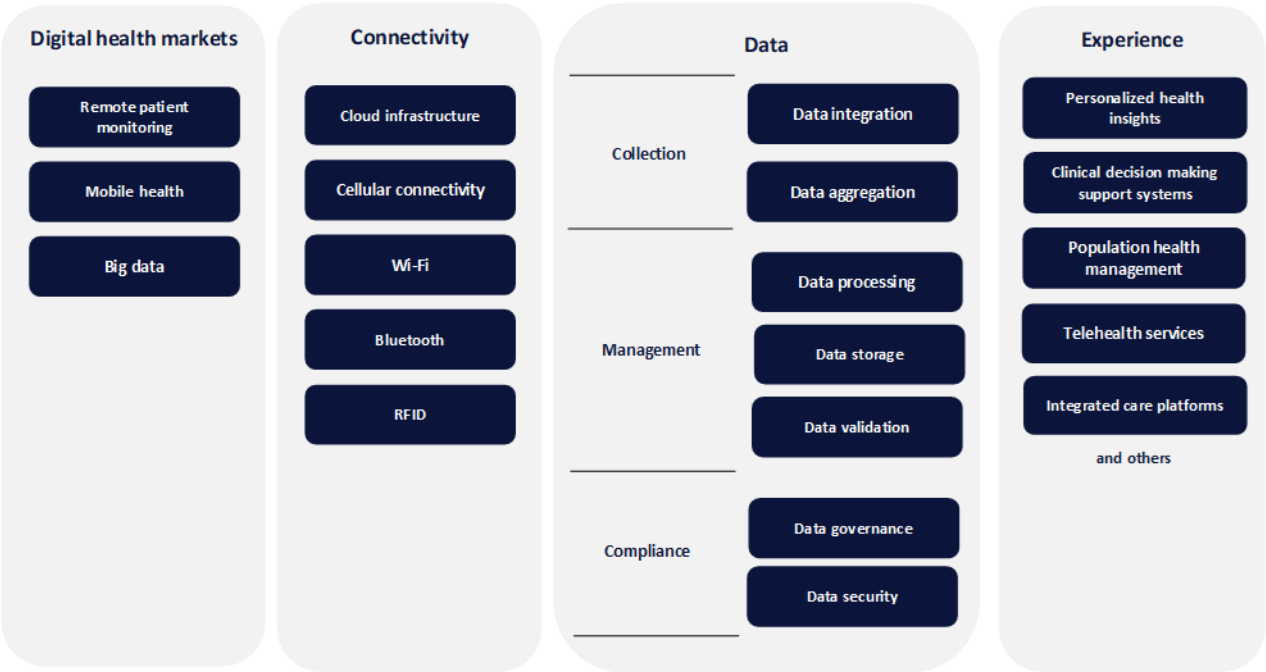


Source: GlobalData

Value Chain

The graphic below outlines the digital health value chain. Digital health is split into three markets: remote patient monitoring, mobile health, and big data. The value chain consists of four segments: digital health markets, connectivity, data, and experience.

The digital health value chain
An overview



Source: GlobalData

The following sections look more closely at each segment of the value chain.

Digital health markets

The digital health value chain begins with three foundational markets: remote patient monitoring, mobile health, and big data. These markets represent the tools, devices, and systems that form the backbone of many medical technologies.

Remote patient monitoring

Remote patient monitoring devices utilize IoT-enabled devices such as wearable fitness trackers, blood pressure monitors, and glucose sensors to collect real-time health data. These devices empower patients to manage chronic conditions and enable providers to track health trends remotely, reducing the need for in-person visits.

While strong players such as Abbott and Philips continue to lead the remote patient monitoring market, there are also newer companies entering the space and beginning to offer innovative technologies.

The digital health value chain

Remote patient monitoring leaders and disruptors

Source: GlobalData

Mobile health

Mobile health uses the ubiquity of smartphones and connected devices to provide various digital health platforms like EMR systems and mHealth apps. mHealth apps include health management apps, medication management apps, and regulated apps.

There are many companies in the mHealth space, especially because so many mHealth apps are not regulated and do not require a prescription to download or access. However, as EMR systems and regulated mHealth apps gain in popularity, the market leaders and disruptors are reflecting that.

The digital health value chain

Mobile health leaders and disruptors

Source: GlobalData

Big data

Big data capitalizes on the vast volume of health data generated by remote patient monitoring devices and mobile health devices. Big data enables healthcare companies to better understand patient health and market dynamics, ultimately identifying areas of opportunity and reducing inefficiencies. Big data plays a pivotal role in shaping the future of digital health by enhancing patient care, enabling personalized medicine, and facilitating better resource management.

The graphic below outlines the leaders and disruptors in big data in the medical sector. Leaders include GE Healthcare and Philips, which have initiatives like leveraging AI to improve patient care and incorporating big data analytics to enhance workflow efficiency.

The digital health value chain

Big data leaders and disruptors

Source: GlobalData

Connectivity

The connectivity layer is important to the digital health value chain as it shows how digital health devices connect to the patient, healthcare professional, or other devices. Many digital health devices are used to collect patient data and information, but cloud infrastructure, cellular connectivity, Wi-Fi, Bluetooth, and RFID are needed to send that data to another system for analysis and interpretation. The collection and transmission of data outside of traditional points of care allows patients to receive remote care and in-person follow-up care if needed.

Healthcare involves numerous stakeholders, including hospitals, clinics, pharmacies, insurers, and patients. Connectivity facilitates interoperability by linking systems and devices, ensuring that data can flow securely and efficiently across platforms.

Data

Data security, processing, analysis, storage, integration and aggregation are all essential aspects of the digital health value chain. These are integral parts of digital health devices and features, as patient data is the key purpose of using such devices. Data security is important when discussing patient care, because patient data is private and vulnerable to cyberattacks. Many digital health devices have data security features, but those that do not often use an additional cybersecurity program to protect data.

Data processing and analysis are crucial to interpretation. The use of digital health tools to first collect patient data is useful, but processing and analysis are what help healthcare professionals interpret data and ultimately make diagnoses and treatment decisions. Data storage, integration, and aggregation are all important aspects of the digital health value chain as they help contain and organize historical patient data. Keeping patient data is necessary to understand a patient's medical past, and can be crucial for future diagnoses or treatments.

Experience

The experience layer of the digital health value chain focuses on transforming raw data into actionable healthcare solutions. Personalized health insights are one of the primary outputs, providing patients with tailored recommendations and real-time feedback. For example, AI-driven tools can monitor glucose levels of a patient with diabetes and suggest lifestyle adjustments or alert them to potential risks. Clinical decision support systems represent another vital service, offering providers predictive analysis for diagnosis and treatment planning. By leveraging patterns in big data, clinical decision support systems can predict disease progression or flag anomalies in patient records.

Population health management is a broader application, where aggregated data helps public health agencies track trends, identify at-risk groups, and implement preventative measures. These core services enhance the quality, accuracy, and efficiency of healthcare delivery, bridging the gap between data and decision making.

Telehealth platforms are a key factor in the experience layer of the value chain, enabling virtual consultations that incorporate data from remote patient monitoring devices and mobile health devices. Integrated care platforms offer connected portals for patients and providers, allowing them to communicate and access health records or receive alerts.

Companies

In this section, GlobalData highlights companies making their mark within the digital health theme.

Public companies

The table below lists some leading listed players associated with this theme and summarizes their competitive position.

Company	Country	Competitive position in the digital health theme
Abbott Laboratories	US	Abbott Laboratories is significantly involved in digital health, focusing on creating innovative connected medical devices and leveraging data to improve healthcare outcomes. Abbott's FreeStyle Libre system is a continuous glucose monitor that allows patients to track their glucose levels and make data-driven decisions. Abbott has partnered with other companies to integrate the FreeStyle Libre system with insulin delivery systems like smart pens and automated insulin pumps. Abbott also develops wearable technologies, including implantable sensors for cardiovascular monitoring and neuromodulation devices for chronic pain and movement disorders.
Boston Scientific	US	Boston Scientific integrates remote monitoring solutions into its devices, such as cardiac implants, allowing healthcare providers to track patient health. Additionally, through initiatives like the Connected Patient Challenge, Boston Scientific collaborates with startups and innovators to develop digital health solutions.
DexCom	US	DexCom operates extensively in the digital health space, primarily focusing on continuous glucose monitoring systems and integrating digital tools for diabetes management. Some key initiatives include DexCom G7 and Stelo Systems, glucose monitors that connect with other health devices and apps. DexCom also connects with over 80 app partners, integrating glucose data with fitness, nutrition, and wellness apps.
GE Healthcare	US	GE Healthcare has a range of innovative technologies aimed at improving precision and personalized care. The company's efforts center around integrating AI, cloud-based applications, and advanced imaging solutions to optimize healthcare delivery. GE Healthcare's AI-enabled imaging systems include Sonic DL for 3D and AIR Recon DL, which enhance scan speed and resolution. As well, the company's D3 digital strategy combines smart devices, drugs, and data analytics to streamline healthcare workflows, address provider burnout, and reduce operational inefficiencies. In its Q3 2024 financial results announcement, GE Healthcare announced recent innovation highlights, including the AI Innovation Lab, which is showcasing five new research projects, and CareIntellect for Oncology, harnessing AI to give clinicians an easy way to see the patient journey in a single view.
Masimo	US	Masimo is a medical technology company that develops, manufactures, and markets non-invasive patient monitoring technologies, medical devices, and sensors to improve patient care. The company's proprietary technologies include signal extraction technology (SET) that helps detect life-threatening events, and the rainbow SET platform. Its major products include patient monitors, pulse oximeters, central monitoring systems, specialty sensors, circuit boards, remote-alarms, and monitoring solutions.

Company	Country	Competitive position in the digital health theme
Medtronic	Ireland	Medtronic is a prominent player in the digital health space, focusing on a variety of solutions that enhance patient care, including remote patient monitoring devices. The company's portfolio includes the CareLink platform and MiniMed insulin pumps, which offer continuous monitoring for diabetes management, providing data-driven insights to healthcare providers. Medtronic's full year and Q4 fiscal 2024 financial results showed low-double-digit growth on the continued launch of the MiniMed system, and high-forties growth in US insulin pump sales.
Philips	Netherlands	Philips is advancing in the digital health space, particularly in the areas of virtual care and remote patient monitoring. The company is expanding these services to ease staff shortages and enhance chronic disease management by monitoring patients outside of traditional clinical settings. Additionally, Philips has formed a strategic partnership with Salesforce to develop a cloud-based healthcare platform that integrates data from various sources, enabling collaborative care.

Source: GlobalData

Private companies

The table below lists some interesting private companies associated with this theme and summarizes their competitive position.

Company	Country	Competitive position in the digital health theme
Accuhealth	US	Accuhealth is a prominent provider of remote patient monitoring solutions. The company's platform enables healthcare providers to track patients' vital signs using cellular-enabled devices like blood pressure monitors. The devices send data to a cloud-based system, which is integrated with electronic health records to streamline workflows.
Flatiron Health	US	Flatiron Health is a health tech company that focuses on improving cancer treatment and advancing research through digital health solutions. The company leverages real-world data and AI to generate insights from electronic health records, and then uses that data to enhance clinical trials, improve drug development processes, and optimize patient care. Flatiron Health also partners with other tech firms, such as Willowglade Technologies, to expand patient engagement. The collaboration aims to streamline practice operations and improve patient outcomes through telehealth and secure communication tools.
Innovaccer	US	Innovaccer offers an AI-based data activation platform that helps organizations make decisions and strategic goals based on insights and predictions from their data. In August 2024, Innovaccer's AI-powered Provider Copilot was officially available on Oracle Health Marketplace. The Innovaccer Provider Copilot acts as a point-of-care assistant that helps reduce manual administrative work for healthcare providers.
Medidata Solutions	US	Medidata Solutions provides cloud-based solutions for life sciences sectors. It offers a wide range of advanced tools for data and analytics, planning, data capture, study management, monitoring, payments, and platform services. Its service portfolio includes implementation, configuration, data testing, integration support, training, reporting, and consultation services for clinical development processes. In November 2024, Medidata announced a new enterprise agreement with Bioforum, a biometrics contract research organization (CRO) that serves clinical trial sponsors worldwide. The partnership is said to bring AI-driven clinical trial management to agile biotech start-ups, with the intention of accelerating their path to market.

Source: GlobalData

Sector Scorecards

At GlobalData, we use a scorecard approach to predict the likely leaders and laggards in a sector over the next five years. Our sector scorecards have four screens: a company screen, a thematic screen, a valuation screen, and a risk screen.

For a full explanation of thematic scoring, please refer to the methodology section at the back of this report.

Medical devices sector scorecard

Who's who

Who does what in the medical devices space?

Medical Devices
(34 companies)

Company	Ticker	Sector	MKT CAP (US$ M)	Country	Description
3M	MMM	Medical Equipment	70,504	USA	Technology company that creates electronic devices and products
Abbott	ABT	Medical Equipment	195,334	USA	Designs, manufactures and markets medical products relational to orthopedic and surgical products
Agilent Tech	A	Measurement equipment	39,263	USA	Manufacturer of bioanalytical and measurement systems
Alphabet	GOOGL	Internet ecosystems	2,415,616	USA	Internet ecosystem monetised by advertising, primarily through the Google search engine
Apple	AAPL	Mobile phones	3,794,676	USA	Internet ecosystem monetised by the sale of proprietary hardware (smartphones and computers)
Baxter	BAX	Medical Supplies	15,009	USA	Offers diagnostic services for human infusion, respiratory therapies, ultrasound and echo cardiography
Becton Dickinson	BDX	Medical Equipment	65,793	USA	Manufactures eyecare products
Biotronik	Unlisted	Medical equipment	Unlisted	Germany	Biomedical technology company
Boston Scientific	BSX	Medical Equipment	133,322	USA	Provide medical tech for imaging, lab diagnostics and reading solutions for health care applications
Coloplast	COLO B	Medical Supplies	24,659	Denmark	Provides diagnostic, detection and information systems for veterinary food and water testing applications
Danaher	DHR	Industrial conglomerate	169,142	USA	Manufacturer of medical, professional, commercial and industrial products.
DexCom	DXCM	Medical Supplies	29,845	USA	Develops and markets advanced medical devices such as orthopaedics, endoscopy and wound management
Edwards Lifesciences	EW	Medical Supplies	43,592	USA	Develops, manufactures and markets products for chronic acute medical conditions
Garmin	GRMN	Wearable tech	41,212	Switzerland	Manufacturer of navigation and comms devices - esp. GPS
GE HealthCare	GEHC	MedTech	36,682	USA	Medical technology company spun off from General Electric in 2023
Getinge	GETI B	Medical Equipment	4,035	Sweden	Produces and sells medical products for the treatment of neurological disorders
Illumina	ILMN	MedTech	22,902	USA	Manufacturer of life science equipment used for gene sequencing
Intuitive Surgical	ISRG	Surgical robots	193,046	USA	Manufacturer of surgical robotic systems
Johnson & Johnson	JNJ	Pharmaceuticals	346,337	USA	Researches, develops, manufactures and sells pharmaceutical products, medical devices and consumer products.
Medtronic	MDT	MedTech	104,314	Ireland	Developer of therapeutic and diagnostic medical products
MicroPort	853	Medical equipment	1,527	China	Medical device developer and manufacturer
Nihon Kohden	6849	Medical Equipment	2,389	Japan	Develops, manufactures and sells medical equipment
Omron	6645	Robotic components	6,695	Japan	Manufacturer of electronic components, equipment and systems used for factory automation.
Philips	PHIA	MedTech	24,204	Netherlands	Manufacturer of medical systems and lighting products (sold its TV and consumer businesses in 2013)
Qiagen	QIA	Medical Supplies	10,078	Netherlands	Global provider of sample to insight solutions to transform biological materials into valuable molecular sights
Quest Diagnostics	DGX	Medical Equipment	17,038	USA	Provider of diagnostic information services to patients and physicians
Roche	ROG	Medical Supplies	234,125	Switzerland	Biotechnology company that develops drugs and diagnostics to treat major diseases.
Siemens Healthineers	SHL	Health Care Providers	63,709	Germany	Provider of medical solutions
Smith & Nephew	SN.	Medical Equipment	10,978	UK	Develops, produces and sells personal care products
Stryker	SYK	Surgical robots	142,079	USA	Manufacturer of robotic orthopedic solutions
Teleflex	TFX	Medical Supplies	8,232	USA	Develops, produces and sells dental implants that are implantable in the jaw
Terumo	4543	Medical Equipment	29,748	Japan	Manufactures products for ostomy, incontinence, mastectomy, wound healing and skin care
Thermo Fisher Scientific	TMO	Medical Equipment	202,825	USA	Develop therapeutic and diagnostic medical products for heart and movement conditions
Zimmer Biomet	ZBH	Medical Equipment	21,271	USA	Develop, manufacture and market specialty surgical products including navigation

Source: GlobalData

Source: GlobalData

Thematic screen

Our thematic screen ranks companies based on overall leadership in the 10 themes that matter most to their industry, generating a leading indicator of future performance

Medical Devices
(34 companies)

Company	MKT CAP (US$ M)	Ticker	Country	Weighting	Thematic Screen										
					20% Artificial Intelligence	10% Wearable Tech	10% Cybersecurity	5% Mobile Health	10% Remote Patient Monitoring	15% Internet of Things	5% ESG	10% Digital Health	10% Cloud	5% India Impact	100% Thematic Ranking
Medtronic	104,314	MDT	Ireland		5	4	4	5	5	5	4	5	3	4	1
Roche	234,125	RDG	Switzerland		5	4	4	4	4	5	5	4	5	3	2
Johnson & Johnson	346,337	JNJ	USA		5	4	4	4	4	5	4	4	5	3	3
Abbott	195,334	ABT	USA		4	5	3	5	5	5	3	5	4	5	4
Apple	3,794,676	AAPL	USA		5	4	4	5	5	5	2	4	4	3	5
GE HealthCare	36,682	GEHC	USA		5	4	3	3	5	4	5	4	5	5	6
Philips	24,204	PHIA	Netherlands		5	3	4	4	5	4	4	4	5	5	7
Alphabet	2,415,616	GOOGL	USA		5	4	5	5	4	2	2	4	5	4	8
Siemens Healthineers	63,709	SHL	Germany		4	3	3	4	4	5	3	4	5	5	9
DexCom	29,845	DXCM	USA		4	4	3	5	5	5	3	4	4	2	10
3M	79,504	MMM	USA		5	4	3	4	3	3	5	3	5	5	11
Baxter	15,009	BAX	USA		4	4	3	4	5	5	3	3	4	3	12
Boston Scientific	133,322	BSX	USA		4	4	3	4	4	4	3	4	4	3	13
Garmin	41,212	GRMN	Switzerland		4	5	2	4	4	4	3	3	4	4	14
Intuitive Surgical	193,046	ISRG	USA		4	3	3	3	3	4	3	4	5	3	15
Illumina	22,902	ILMN	USA		5	3	3	3	3	3	3	3	5	4	16
Omron	6,695	6645	Japan		4	3	2	4	5	5	3	4	2	3	17
Thermo Fisher Scientific	202,825	TMO	USA		5	2	3	3	3	4	3	3	4	4	18
Becton Dickinson	65,793	BDX	USA		4	4	3	1	4	4	3	3	5	2	19
Nihon Kohden	2,389	6849	Japan		4	4	3	2	4	4	3	3	3	4	20
Biotronik	Unlisted	Unlisted	Germany		4	4	2	4	4	5	3	4	1	3	21
Stryker	142,079	SYK	USA		4	4	2	2	3	4	2	4	4	3	22
Zimmer Biomet	21,271	ZBH	USA		4	4	1	4	5	3	3	4	3	2	23
Smith & Nephew	10,978	SN.	UK		4	4	3	3	3	2	3	4	2	4	24
Qiagen	10,078	QIA	Netherlands		4	3	2	3	3	3	3	3	4	2	25
Agilent Tech	39,263	A	USA		4	3	3	3	3	3	3	2	3	3	26
Danaher	169,142	DHR	USA		3	2	3	3	3	3	3	2	3	4	27
Quest Diagnostics	17,038	DGX	USA		4	3	1	2	3	3	4	2	3	2	28
Getinge	4,035	GETI B	Sweden		2	2	1	2	2	5	3	3	4	3	29
Edwards Lifesciences	43,592	EW	USA		2	3	2	2	2	4	4	2	3	4	30
Teleflex	8,232	TFX	USA		1	3	3	1	3	3	3	3	2	4	31
Coloplast	24,659	COLO B	Denmark		1	3	1	3	3	3	4	2	2	4	32
MicroPort	1,527	853	China		1	3	1	1	2	4	3	3	2	3	33
Terumo	29,748	4543	Japan		2	3	1	1	2	3	3	2	2	3	34

Thematic leader

Thematic laggard

Key: 1 (red) implies this theme will have a negative impact on earnings over the next 12 months; 3 (amber) implies a neutral impact; and 5 (green) a positive impact. See the methodology section at the back of this report for an explanation of our research methodology.

Source: GlobalData

Valuation screen

Our valuation screen ranks our universe of companies within a sector based on selected valuation metrics

Medical Devices

(34 companies)

Company	MKT CAP (US$ M)	Ticker	Country	Weighting	Valuation Screen 25% EV/Sales	20% P/E	15% Net margin %	20% P/Book	20% FCF yield %	100% Valuation Ranking
Baxter	15,009	BAX	USA		1.7	5.7	17.9	1.8	6.9	1
Getinge	4,035	GETI B	Sweden		1.6	18.3	7.6	1.5	3.6	2
Teleflex	8,232	TFX	USA		3.3	23.1	12.0	1.9	5.1	3
Johnson & Johnson	346,337	JNJ	USA		4.1	9.9	41.3	5.0	5.3	4
Zimmer Biomet	21,271	ZBH	USA		3.6	20.8	13.8	1.7	4.2	5
Quest Diagnostics	17,038	DGX	USA		2.3	20.0	9.2	2.7	5.1	6
Nihon Kohden	2,389	6849	Japan		1.4	21.6	7.7	2.0	2.9	7
Roche	234,125	ROG	Switzerland		4.0	18.2	19.6	7.1	5.5	8
Medtronic	104,314	MDT	Ireland		3.8	28.4	11.4	2.1	5.0	9
GE HealthCare	36,682	GEHC	USA		2.2	23.4	8.0	5.1	4.7	10
Philips	24,204	PHIA	Netherlands		1.6	-49.6	-2.6	1.9	7.0	11
Siemens Healthineers	63,709	SHL	Germany		3.3	31.2	8.7	3.3	3.5	12
Qiagen	10,078	QIA	Netherlands		5.4	29.5	17.4	2.6	2.9	13
Becton Dickinson	65,793	BDX	USA		4.2	38.6	8.4	2.5	4.7	14
Agilent Tech	39,263	A	USA		5.9	31.7	18.1	6.7	3.8	15
Omron	6,695	6645	Japan		1.4	126.9	1.0	1.3		16
Smith & Nephew	10,978	SN.	UK		2.5	41.7	4.7	2.1	1.6	17
Thermo Fisher Scientific	202,825	TMO	USA		5.4	33.8	14.0	4.3	3.4	18
Danaher	169,142	DHR	USA		7.6	35.5	19.9	3.2	3.4	19
Garmin	41,212	GRMN	Switzerland		7.5	32.0	24.7	5.9	2.9	20
Abbott	195,334	ABT	USA		5.1	34.1	14.3	5.1	2.6	21
Edwards Lifesciences	43,592	EW	USA		7.1	31.1	23.4	6.6	1.4	22
3M	70,504	MMM	USA		2.5	-10.1	-21.4	14.7	7.2	23
Alphabet	2,415,616	GOOGL	USA		7.5	32.7	24.0	8.5	2.9	24
Terumo	29,748	4543	Japan		5.0	43.0	11.5	3.4	1.5	25
MicroPort	1,527	853	China		2.7	-3.2	-50.2	2.0	-26.1	26
Coloplast	24,659	COLO B	Denmark		7.3	34.6	18.7	9.8	0.8	27
Stryker	142,079	SYK	USA		7.4	44.9	15.4	7.6	2.2	28
Apple	3,794,676	AAPL	USA		9.8	40.5	24.0	66.6	2.9	29
Illumina	22,902	ILMN	USA		5.2	-19.7	-25.8	4.0	1.2	30
DexCom	29,845	DXCM	USA		8.2	55.1	14.9	14.4	1.7	31
Intuitive Surgical	193,046	ISRG	USA		26.4	107.4	25.2	14.5	0.4	32
Boston Scientific	133,322	BSX	USA		10.0	83.7	11.2	6.9	1.3	33
Biotronik	Unlisted	Unlisted	Germany							34
Median					4.2	31.2	13.9	4.0	3.0	
Mean					5.4	30.8	10.6	6.9	2.5	

Cheap

Expensive

Key: Green denotes that the company is cheap (15% more attractively priced than the median value for the sector) relative to its global peers; amber denotes it is within 15% of the sector median value; and red denotes that it is expensive relative to its global peers. Private companies are shown at the bottom of these rankings by default because they do not have a publicly listed market price. See the methodology section at the back of this report for an explanation of our research methodology.

Source: GlobalData

Risk screen

Our risk screen ranks companies within a particular sector based on overall investment risk

Medical Devices

(34 companies)

Company	MKT CAP (US$ M)	Ticker	Country	Weighting	Risk Screen 40% Operational Risk	30% Financial Risk	15% Industry Risk	15% Country Risk	100% Risk Ranking
Edwards Lifesciences	43,592	EW	USA		4	4	4	5	1
Alphabet	2,415,616	GOOGL	USA		4	4	4	3	2
Intuitive Surgical	193,046	ISRG	USA		4	4	4	3	3
Quest Diagnostics	17,038	DGX	USA		4	4	3	4	4
Apple	3,794,676	AAPL	USA		5	3	3	3	5
Thermo Fisher Scientific	202,825	TMO	USA		4	3	4	4	6
Roche	234,125	ROG	Switzerland		4	3	4	3	7
Abbott	195,334	ABT	USA		4	3	4	4	8
Siemens Healthineers	63,709	SHL	Germany		4	3	4	3	9
Omron	6,695	6645	Japan		3	4	3	3	10
Coloplast	24,659	COLO B	Denmark		3	3	4	4	11
Johnson & Johnson	346,337	JNJ	USA		4	3	4	3	12
Medtronic	104,314	MDT	Ireland		4	3	4	4	13
Nihon Kohden	2,389	6849	Japan		2	4	4	4	14
Terumo	29,748	4543	Japan		3	3	4	4	15
3M	70,504	MMM	USA		4	3	3	3	16
Agilent Tech	39,263	A	USA		3	3	4	4	17
Danaher	169,142	DHR	USA		3	3	4	3	18
Qiagen	10,078	QIA	Netherlands		4	3	4	4	19
DexCom	29,845	DXCM	USA		3	3	4	5	20
Biotronik	Unlisted	Unlisted	Germany		3	3	4	5	21
Boston Scientific	133,322	BSX	USA		4	2	4	4	22
Stryker	142,079	SYK	USA		4	2	4	4	23
Baxter	15,009	BAX	USA		3	3	4	3	24
Illumina	22,902	ILMN	USA		3	3	4	3	25
Becton Dickinson	65,793	BDX	USA		3	2	4	4	26
GE HealthCare	36,682	GEHC	USA		3	2	4	5	27
Getinge	4,035	GETI B	Sweden		3	3	4	3	28
Philips	24,204	PHIA	Netherlands		3	3	4	3	29
Smith & Nephew	10,978	SN.	UK		3	2	4	4	30
Teleflex	8,232	TFX	USA		3	2	4	3	31
Garmin	41,212	GRMN	Switzerland		3	3	3	2	32
Zimmer Biomet	21,271	ZBH	USA		3	2	4	3	33
MicroPort	1,527	853	China		2	2	4	4	34

Key: Green denotes low risk; amber denotes medium risk; red denotes high risk. See the methodology section at the back of this report for an explanation of our research methodology.

Source: GlobalData

Glossary

Term	Definition
3D printing	Also known as additive manufacturing, it refers to the process of joining materials to make objects from three-dimensional model data, usually layer upon layer.
Artificial intelligence (AI)	Refers to software-based systems that use data inputs to make decisions on their own.
Augmented reality (AR)	Technology that allows the user to see the real world overlaid with a layer of digital content. This digital content layer can include sensor-based data, sound, video, graphics, or other datasets.
Automation	A technique that enables processes, both digital and physical, to run themselves, with minimal human intervention.
Big data	Extremely large data sets that may be analyzed computationally to reveal patterns, trends, and associations, especially relating to human behavior and interactions.
Blockchain	A blockchain is a type of distributed ledger that comprises unchangeable, digitally recorded data in packages called blocks. Each block is then "chained" to the next block, using a cryptographic signature. This allows blockchains to be used like a ledger, which can be shared and accessed by anyone with the appropriate permissions.
Cloud analytics	Refers to the analysis of robot sensor data that is streamed to the cloud and sent back to a robot in an effort to help them learn to self-diagnose faults.
Cloud computing	Computing delivered as an online service. It encompasses the provision of IT infrastructure, operating software, middleware, and applications hosted within a data center and accessed by the end user via the internet.
Continuous monitoring	An evolution on the current paradigm of intermittent testing. Continuous monitoring technology allows for non-stop monitoring of patient vitals to ensure that a patient's disease symptoms are fully managed.
Cyber crime	Any crime that involves a computer and a network.
Cybersecurity	The practice of defending computers, servers, mobile devices, electronic systems, networks, and data from malicious attacks.
Cybersecurity breaches	Unauthorized access to sensitive data, applications, networks, or servers is gained by bypassing the security mechanism.
Data analytics	The practice of extracting meaning from raw data using specialized computer systems.
Data governance	A collection of practices and processes that help to ensure the formal management of data assets within an organization.
Data management	The process of ingesting, storing, organizing, and maintaining the data created and collected by an organization.

Term	Definition
Data interoperability	Refers to the ability of customers to switch and transfer data across digital service providers.
Data privacy	The way in which customers' information is handled and shared by a company based on its importance, individual's consent, or regulatory obligations.
Digital therapeutics	An intervention based on software (e.g., mobile devices, apps, sensors, IoT) to make behavioral and lifestyle changes in patients.
Drug development	Refers to introducing a new drug onto the market once a lead compound has been identified through the drug discovery process.
Electronic medical record (EMR) system	An electronic version of a patient's medical history that is maintained by the provider over time, and may include all of the key administrative clinical data relevant to that person's care under a particular provider.
European Data Protection Board (EDPB)	An independent European organization that is responsible for ensuring consistent application of the General Data Protection Regulation (GDPR). It also promotes cooperation among the EU's data protection authorities.
Fitness bands	An electronic device, usually worn around the wrist, that is embedded with computing power that monitors and records physical activity such as walking or running, heart rate, number of calories burned, sleep, etc.
General Data Protection Regulation (GDPR)	A regulation that came into force across the EU in May 2018, giving consumers certain rights and protections over the data that organizations hold on them, including the right to data portability.
Genomics	The branch of molecular biology concerned with the structure, function, evolution, and mapping of genomes.
Health and wellness	Interest in pursuing healthier lifestyles and maximizing quality of life is on the rise, and health considerations exert a significant influence on consumers' product choices. Products that mitigate against the future prospects of various health problems can attract a wide variety of consumers, and many of these benefits can be included in categories that consumers already buy.
Healthtech	The application of organized knowledge and skills in the form of devices, medicines, vaccines, procedures, and systems developed to solve a health problem and improve quality of lives.
Internet of Things (IoT)	An umbrella term used to describe the use of connected sensors and actuators to control and monitor the environment, the things that move within it, and the people who act within it.
Machine learning	An application of AI that gives computer systems the ability to learn and improve from data without being explicitly programmed.
Medical robot	A robot used in the medical sciences. This category of robot incorporates surgical robots, which either allow surgical operations to be carried out with greater precision than an unaided human surgeon, or allow for remote surgery (where a human surgeon is not physically present with the patient) to be performed.

Term	Definition
Medtech	A broad term referring to the use of digital hardware, sensors, optics, data analytics, and AI to simplify, enhance, and personalize the prevention, diagnosis, monitoring, and treatment of diseases.
Platform as a service (PaaS)	PaaS is the next level of abstraction of cloud computing after IaaS. It refers to those aspects of the traditional IT stack that are covered by the operating system, middleware, analytics, and database. PaaS uses include application development, application testing, data warehousing, business intelligence and database provision.
Radio frequency identification (RFID)	RFID provides a unique identifier for any object that is easier and quicker to read than barcodes. RFID tags can be attached to any object or built into products at the manufacturing stage, consisting of a chip that can carry up to 2,000 bytes of data as well as a small antenna.
Remote patient monitoring	Technology allowing for patients' health to be tracked outside of the conventional clinical setting (e.g., smart inhalers that track patient use via an app and send to the physician).
Robotics	The branch of technology that deals with the design, construction, operation, and application of robots.
Sensor	A device that detects or measures a physical property and then responds accordingly.
Software as a service (SaaS)	SaaS is IaaS plus PaaS and the application that runs on them. The software is usually invoiced on a per-user subscription basis or on a transactional basis. SaaS allows users to access applications over the internet that are managed by a third-party vendor without having to download the software locally (e.g., Salesforce).
Virtual reality (VR)	Technology that aims to immerse the user in an entirely artificial world, which has the illusion of reality. It uses special equipment such as a headset or gloves fitted with sensors to simulate a user's physical presence in a 3D environment.
Wearable tech	A blanket term for electronic devices that can be worn on the body, either as an accessory (like a watch or a pair of glasses) or as part of the material used in clothing (such as sportswear that measures biometrics).
Wireless fidelity (Wi-Fi)	The popular wireless networking technology that uses radio waves to provide wireless high-speed internet and network connections.
Source: GlobalData	

Further Reading

GlobalData reports

Publication date	Report title
September 2024	Thematic Intelligence: Artificial Intelligence in Healthcare
June 2024	Thematic Intelligence: Artificial Intelligence
March 2024	Thematic Intelligence: Regulated mHealth Apps
February 2024	Thematic Intelligence: Digital Therapeutics

Source: GlobalData

Our Thematic Research Methodology

Companies that invest in the right themes become success stories. Those that miss the important themes in their industry end up as failures.

Viewing the world's data by themes makes it easier to make important decisions

We define a theme as any issue that keeps a senior executive awake at night. GlobalData's thematic ecosystem is a single, integrated global research platform that provides an easy-to-use framework for tracking all themes across all companies in all sectors. It has a proven track record of identifying critical themes early, enabling companies to make the right investments ahead of the competition and secure that all-important competitive advantage.

Traditional research does a poor job of picking winners and losers

The difficulty in picking tomorrow's winners and losers in any industry arises from the sheer number of technology cycles—and other themes—that are in full swing right now. Companies are impacted by multiple themes that frequently conflict with one another. What is needed is an effective methodology that reflects, understands, and reconciles these conflicts.

That is why we developed our thematic engine

At GlobalData, we have developed a unique thematic methodology for ranking all major companies in all major sectors based on their relative strength in the big themes that are impacting their industries.

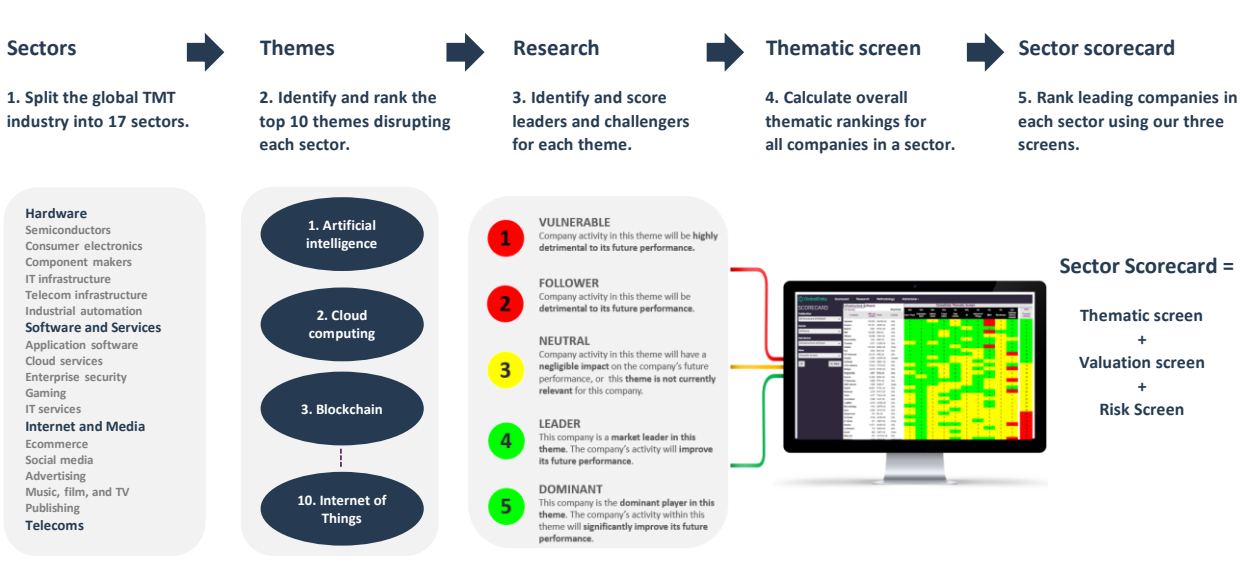
Our thematic engine tags over 145 million data items across five alternative data sets—patents, jobs, deals, filings, and news—to themes. The vast datasets within our thematic engine help our analysts to produce sector scorecards that identify the companies best placed to succeed in a future filled with multiple disruptive threats.

How do we create our sector scorecards?

First, we split each industry into sectors because a different set of themes drives each sector. Taking the TMT (technology, media, and telecom) industry as an example, we split this industry into the sectors shown in the graphic below.

Our five-step approach for generating a sector scorecard

Here we use tech, media, and telecom as an example sector for illustration purposes



Source: GlobalData

Second, we identify and rank the top 10 themes for each sector (these can be technology themes, macroeconomic themes, or industry-specific themes). Third, we publish in-depth research on specific themes, identifying the winners and losers within each theme. The problem is that companies are exposed to multiple investment themes, and specific themes' relative importance can fluctuate. So, our fourth step is to create a thematic screen for each sector to calculate overall thematic leadership rankings after taking account of all themes impacting that sector. Finally, to give a crystal-clear picture, we combine this thematic screen with our valuation and risk screens to generate a sector scorecard used to help assess overall winners and losers.

What is in our sector scorecards?

Our sector scorecards predict the likely leaders and laggards in a sector over the next five years. Each sector scorecard has four screens:

- **The thematic screen** ranks companies based on overall leadership in the 10 themes that matter most to their industry, generating a leading indicator of future performance.
- **The valuation screen** ranks companies based on selected valuation metrics, indicating which publicly listed players appear cheap or expensive relative to their peers.
- **The risk screen** ranks companies within a particular sector based on overall investment risk.
- **The company screen** provides a short description of all the companies in our sector scorecard.

How do we score companies in our thematic screen?

Our thematic screen ranks companies within a sector based on overall leadership in the 10 themes that matter most to their industry, generating a leading indicator of future earnings growth.

Thematic scores predict the future, not the past. Our thematic scores are based on our analysts' assessment of their competitive position in relation to a theme, on a scale of 1 to 5:

1	**Vulnerable**	The company's activity in this theme will be highly detrimental to its future performance.
2	**Follower**	The company's activity in this theme will be detrimental to its future performance.
3	**Neutral**	The company's activity in this theme will have a negligible impact on the company's future performance, or this theme is not currently relevant for this company.
4	**Leader**	The company is a market leader in this theme. The company's activity in this theme will improve its future performance.
5	**Dominant**	The company is a dominant player in this theme. The company's activity in this theme will significantly improve its future performance.

How do our research reports fit into our overall thematic research ecosystem?

Our thematic research ecosystem is designed to assess the impact of all major themes on the leading companies in a sector. To do this, we produce three tiers of thematic reports:

- **Single theme**: These reports offer in-depth research into a specific theme (e.g., artificial intelligence). They identify winners and losers based on thematic leadership, market position, and other factors.
- **Multi-theme**: These reports cover all themes impacting a sector and the implications for the key players in that sector.
- **Sector scorecard**: These reports identify those companies most likely to succeed in a world filled with disruptive threats. They incorporate our thematic screen to show how conflicting themes interact with one another, as well as our valuation and risk screens.

About GlobalData

GlobalData is a leading provider of data, analytics, and insights on the world's largest industries. In an increasingly fast-moving, complex, and uncertain world, it has never been harder for organizations and decision makers to predict and navigate the future. This is why GlobalData's mission is to help our clients to decode the future and profit from faster, more informed decisions. As a leading information services company, thousands of clients rely on GlobalData for trusted, timely, and actionable intelligence. Our solutions are designed to provide a daily edge to professionals within corporations, financial institutions, professional services, and government agencies.

Unique Data

We continuously update and enrich 50+ terabytes of unique data to provide an unbiased, authoritative view of the sectors, markets, and companies offering growth opportunities across the world's largest industries.

Expert Analysis

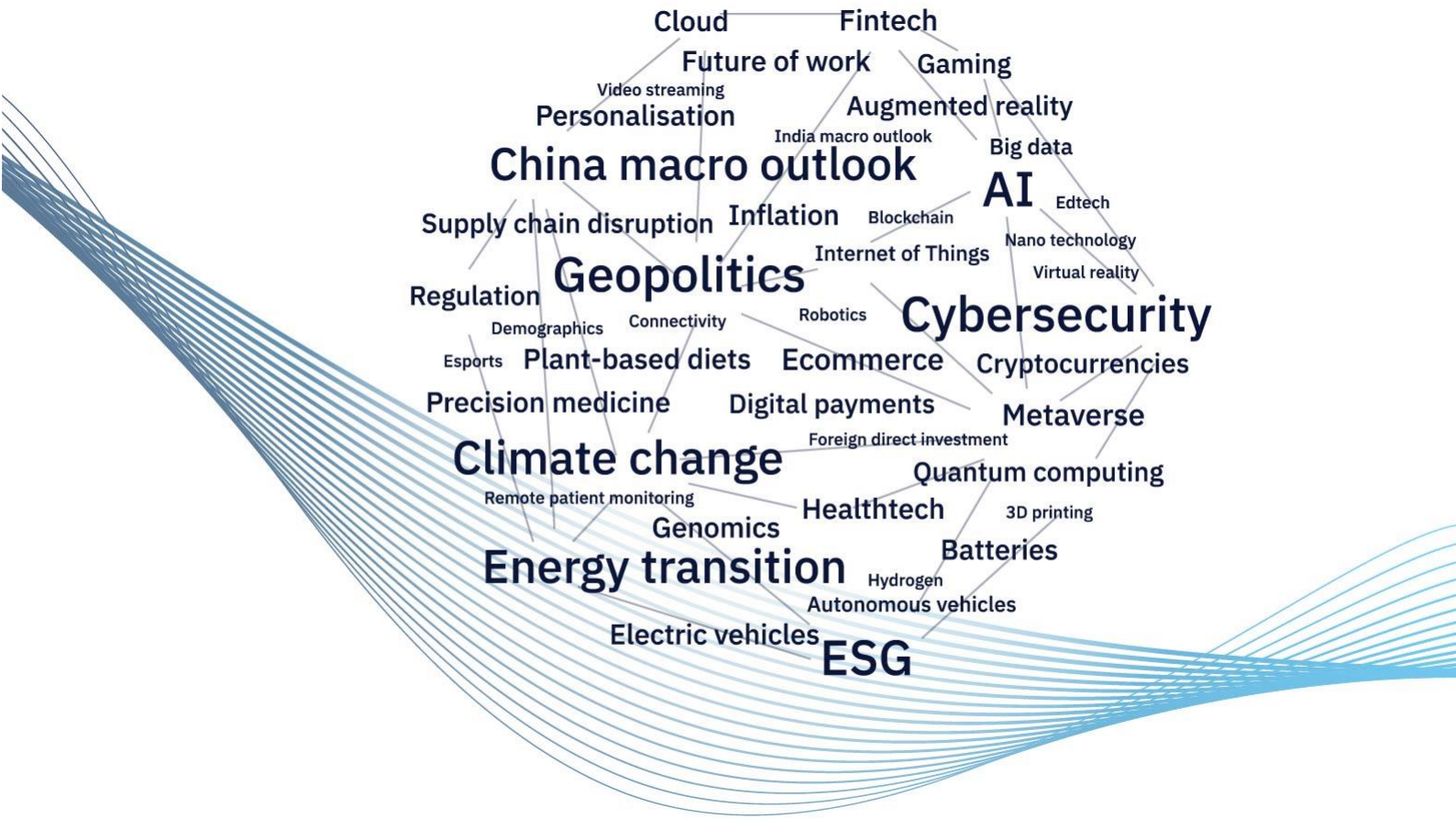
We leverage the collective expertise of over 2,000 in-house industry analysts, data scientists, and journalists, as well as a global community of industry professionals, to provide decision-makers with timely, actionable insight.

Innovative Solutions

We help you work smarter and faster by giving you access to powerful analytics and customizable workflow tools tailored to your role, alongside direct access to our expert community of analysts.

One Platform

We have a single taxonomy across all of our data assets and integrate our capabilities into a single platform – giving you easy access to a complete, dynamic, and comparable view of the world's largest industries.



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