Thematic Research: Healthcare

Coordinated Healthcare

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Contents

Executive Summary

Coordinated Healthcare is Associated with Better Health Outcomes

Coordinated healthcare covers all of the ways through which patients interact with their healthcare system. Understanding how patients seek care, and what hurdles they face, is essential when seeking to remove barriers and reduce costs. Understanding everything from how emergency departments interact with family doctors to how visits to specialists are enabled and managed is key to keeping healthcare value high and avoiding patient barriers. Additionally, managing and streamlining the flow of patients within facilities through the use of artificial intelligence (AI), machine learning, chat bots, and virtual displays can greatly lower costs and improve patient experience.

The storing and sharing of personal health data between providers is an important aspect of care coordination. Providers need to have quick and easy access to this information to better understand the patient's healthcare needs, devise a medical plan, and ensure that the same medical care is not replicated. For example, an emergency doctor at a hospital will need to know about a patient's previous medical history, including medications and any recent tests and procedures. Likewise, the patient's primary healthcare provider will need to be aware of the care that the patient received at the emergency center. Uncoordinated healthcare may be associated with poor health outcomes, duplicated medical tests, drug interactions, and contradicting medical advice.

In this report, we have also discussed some of the ways that patient care and patient flow is managed in a healthcare facility. For example, a variety of different tools including software, apps, robots, and visual displays are used in smart hospitals to streamline and coordinate the movement of patients within the hospital.

Leaders and Disruptors

Some of the leaders (those that are positioned well to benefit from this theme) and disruptors in this space are listed below. Patient care management and coordination players provide tools and software to aid in drafting and sharing a care plan across different healthcare providers. Patient flow management players provide solutions for managing the flow of patients inside a healthcare facility.

Patient Care Management and Coordination

- **Leaders:** Allscripts, McKesson, and Philips Healthcare
- **Disruptors:** Babyscripts, Optum, and SonarMD

Personal Health Data

- **Leaders:** Allscripts, Cerner, and Epic Systems
- **Disruptors:** Snowflake, Appian, and Intersystems

Patient Flow Management

- **Leaders:** McKesson, Cisco, and GE Healthcare
- **Disruptors:** Care Logistics, Change Healthcare, and TeleTracking Technologies

Inside

Related Reports

- Personal Health Data
- Smart Hospitals

Report Type

- **Single Theme**
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- Sector Scorecard

Players

We have highlighted some of the key players in the coordinated healthcare theme below. These include companies that provide services and software related to coordinated healthcare.

Who are the leading players in the coordinated healthcare theme and where do they sit in the value chain?

Source: GlobalData

Trends

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

Healthcare Trends

The table below highlights the key healthcare trends impacting the coordinated healthcare theme.

Trend	What's happening?
Electronic medical records	Personal health data may refer to electronic health records (EHR), electronic medical records (EMR), and any other health data transmitted through telehealth, wearables/sensors, or apps. It includes patient-reported and objective data about a patient's medical history, diagnostic tests, vitals, treatments, medications, and more. The digitalization of health data has allowed for easier access and sharing among patients, family physicians, emergency departments, and specialists. Quick and complete access to patient health information allows for better patient outcomes. Data can be mined from patient records to design treatment plans and allow for the practice of preventative and personalized medicine. It saves both time and resources for patients and healthcare providers. Data tracking can be used by healthcare providers and insurance companies to find trends in a population's health and in healthcare services. However, incompatibilities between systems still remain, and more work is required to allow for seamless data sharing among different healthcare settings. Other challenges include the aggregation, filtration, and analysis of this data. Additionally, cybersecurity and privacy are top concerns.
Patient flow command center	In smart hospitals and other smart healthcare provider spaces, patient flow command centers can reduce traffic and wait times. Different software, platforms, apps, virtual displays, or robots can help direct patients around a hospital. Notifications can be sent to patients to remind them of their appointment times and locations. Various software and tools allow healthcare staff real-time access to details about patient location, status, delays, and bottlenecks.
Value-based care	The ability to track and share personal health data is important for the practice of value-based care. The value-based reimbursement model reimburses healthcare providers based on patient health outcomes rather than per procedure or treatment. This provides an incentive to reduce chronic diseases and future healthcare costs. The sharing of data and the practice of value-based care also prevents duplication of care and keeps costs low.
Patient-centric care and patient education	Patients are increasingly informed about their health due to the rise in education, internet access, and wearable devices. They expect a more patient-centered type of care in which they are actively participating in their medical journey. Patient education and access to information are important aspects of coordinated healthcare. Patients need to be made aware of the details of their health journey, understand why they are being referred to specialists, and communicate their goals and healthcare needs with various healthcare providers.
Growing elderly population	As the elderly population continues to grow, the number of chronic and complicated medical cases that require multi-disciplinary coordinated care increases. These populations are at a higher risk for the negative consequences of disconnected care. It is essential that their care providers are in continuous communication with each other to provide safe and effective care for the patient. Treatment and care need to be synchronized across different healthcare settings and providers, and duplication of services and drug interactions need to be eliminated.

Source: GlobalData

Technology Trends

The table below highlights the key technology trends impacting the coordinated healthcare theme.

Trend	What's happening?
AI	AI refers to software-based systems that use data inputs to make decisions on their own. Machine learning (ML) is an AI technology that allows machines to learn by using algorithms to interpret data from connected devices to predict outcomes and learn from successes and failures. One of the benefits of using AI technology is that it can greatly improve data quality. This improvement is needed within any analytics-driven organization where the proliferation of personal, public, cloud, and on-premise data has made it nearly impossible for information technology (IT) to keep up with user demand. Due to the large size and variety of the data generated within the healthcare sector, AI is needed to organize and make sense of the data.
IoT	Internet of things (IoT) describes the use of connected sensors and actuators to control and monitor an environment, the things that move within it, and the people that act within it. For example, devices, personnel, and patients can be efficiently tracked and coordinated in a smart hospital using IoT to ensure that patient wait times are minimized and patient treatment is optimized.
Cloud	As computing moves from in-house corporate data centers to third-party cloud data centers, corporations need to buy less IT equipment. The rise in the use of cloud computing in the healthcare industry has allowed for a more scalable, cost-effective, and interconnected method of storing and sharing data.
Big data	Big data is so voluminous and complex that traditional data-processing application software is inadequate to deal with it in its entirety. Big data challenges include capturing data, data storage, data analysis, search, sharing, transfer, visualization, querying, updating, and information privacy. Big data competence is an important aspect of smart hospitals, as these hospitals produce large volumes of data that can help improve patient outcomes and experience, as well as uncover bottlenecks in service, internal waste, and inefficiency.
Cybersecurity and Privacy	The number of healthcare record breaches has continued to grow in the past few years. Personal health data contains private and confidential information that can be valuable to hackers. Cybersecurity is an important consideration in this space. Proactive measures that continuously search for vulnerabilities and risks are in demand. Additionally, concerns about privacy and how personal data are utilized is also an important topic. In 2017, the UK Information Commissioner's office found that a transfer of health records for 1.6 million patients from a London hospital to Google's DeepMind, an AI company, did not comply with the Data Protection Act. Concerns were raised regarding DeepMind's mobile app, which was undergoing testing at the time of the transfer, and the fact that a large quantity of private health data was being used for the testing process.

Source: GlobalData

Regulatory Trends

The table below highlights the key regulatory trends impacting the coordinated healthcare theme. The regulatory trends mentioned here are related to the storing and sharing of personal health data which is an important aspect of care coordination.

Trend	What's happening?
HIPAA	The Health Insurance Portability and Accountability Act of 1996 (HIPAA) is a US legislation that protects medical data privacy and security. It provides guidelines to ensure compliance related to the security and proper management of confidential information. HIPAA permits health care providers to share protected health information with other health care providers to allow for care coordination.
HITECH Act	In 2009, the Health Information Technology for Economic and Clinical Health (HITECH) Act was passed in the US to promote the adoption and meaningful use of EHRs, and to address privacy and security concerns. Financial incentives were offered for adopting EHRs and penalties were increased for HIPPA violations.
21st Century Cures Act	One part of the 21st Century Cures Act deals with interoperability and seeks to increase data sharing and access of health information. This will allow patients to own their health data and send it wherever they want. This puts the patient at the center of their data flow and prevents "data blocking" by proprietary software ecosystems.
General Data Protection Regulation	The General Data Protection Regulation (GDPR) was introduced in the EU in May 2018. It is a regulation in EU law about data protection and the privacy of EU and European Economic Area residents. This includes health data, which is an important consideration for care coordination. In the first year of its enforcement, more than 89,000 personal data breach notifications were sent to EU data protection supervisory authorities (DPAs), while over 144,000 queries and complaints were made to DPAs by individuals who believed their rights under GDPR had been violated. Authorities have begun using the powers provided by GDPR to levy significant fines on non-compliant companies.

Source: GlobalData

Industry Analysis

A patient's care may involve a variety of different players, including physicians, nurses, dieticians, pharmacists, specialists, the patient themselves, and the patient's family. While the number of players for a relatively healthy patient maybe few, this number will increase for patients who are older and have complicated multi-disciplinary related diseases. Coordination between different stakeholders is necessary for safe and effective patient care. Access to complete personal health data is an important part of this process.

EHRs include information such as previous diagnoses, allergies, medications, treatments, immunizations, radiology images, and physicians' notes. They may be used by hospitals, physician practices, pharmacies, and other healthcare providers. Globally, various government initiatives have encouraged the incorporation of EHRs. For example, the Obama administration offered billions of dollars in incentive payments to increase the adoption of EHRs in the US. This led to a rise in the use of EHRs in hospitals and physician practices. Currently, over 90% of hospitals and over 80% of physicians' practices in the US have adopted EHRs. Compared to paper records, EHRs provide greater accessibility and transparency. Digital formatting allows data to be shared over networks and can result in better coordination between healthcare providers. It standardizes records and allows for the collection of data for clinical and epidemiological studies. The records can be continuously updated, and patient health can be tracked without the difficulty of trying to locate and obtain previous paper records. Digital records can allow the prediction of required care across multiple specialties and also allow for early coordination of those care routes. For example, it is possible to us EHRs to predict higher risk for heart disease, and then connect the patient with dietary advice and more targeted heart health checkup diagnostics.

Many challenges still remain regarding interoperability among systems. The goal is to achieve seamless communication and sharing between patients, doctors, hospitals, and various healthcare providers, no matter what EHR system they are using. Additionally, it aims to allow for large-scale data analytics. Other challenges include the quality of data being entered, as well as data organization, filtering, and analysis.

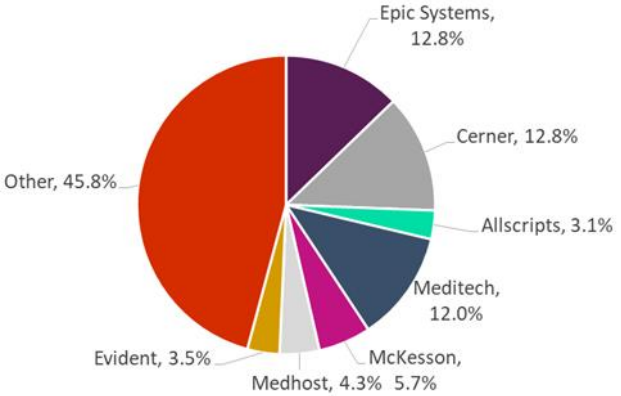
Competitive Analysis

Globally, the EHR market is expected to rise to $40B within the next five years. There are over 700 EHR providers, including Epic, Cerner, and Allscripts Healthcare solutions. The estimated US market shares for hospital- and physician-based EHR providers are shown in the figure below.

Players in the US EHR Market

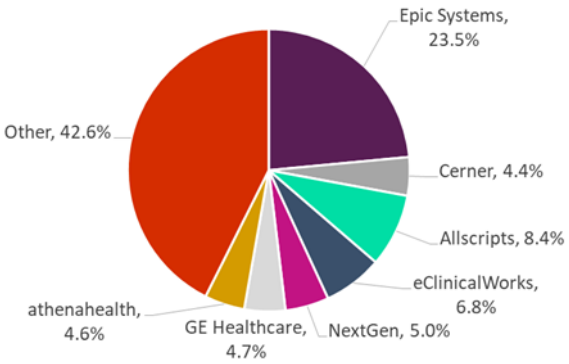
Epic Systems and Cerner have the largest market share of Hospital EHR providers.

Estimated US Market Share of Hospital EHR Providers



Epic Systems has the largest market share of physician-Based EHR providers.

Estimated US Market Share of Physician-Based EHR Providers



Source: GlobalData

Use Cases

Coordinated Healthcare and the COVID-19 Pandemic

The COVID-19 pandemic has further illustrated the value and challenges of coordinated healthcare. During a global pandemic, the sharing and communication of patient health information among various healthcare providers, researchers, and government agencies is of utmost importance. It is useful for the continuation of care for patients with COVID-19, for anticipating needs in the healthcare sector like hospital capacity and intensive care unit (ICU) admittance, and for furthering research and understanding of the disease. However, the currently available EHR systems still suffer from many quality and interoperability issues that have made it difficult to fully utilize these data and extract actionable insight.

Medical Home or Patient-Centered Medical Home Model

The patient-centered medical home (PCMH) model is often seen as the future of the healthcare system. It is based on teamwork and efficient patient care. Strong partnerships and communication between various healthcare providers, patients, and their families are key. The PCMH model has five main principals: coordinated care, comprehensive care, patient-centered approach, accessibility of services, and quality and safely. Several programs, organizations, payers, and states in the US currently offer PCMH recognition to medical practices that quality. Payers offer different financial incentives to encourage primary care practices to become medical homes. For example, they may offer new payment models for PCMH services or grant-based payments for PCMH transformation costs. Overall, the PCMH model is thought to reduce healthcare costs, and to provide safer and more efficient patient care.

In terms of coordinated care, the PCMH model requires that the patient's healthcare be fully coordinated by the PCMH team. This includes care received at the family doctor, hospital, specialist, and home care, among others. This may also include mental and behavior health care. A variety of different tools and solutions such as patient registries and health IT may be used. The goal is to ensure that the patients are connected to and can access needed medical services. Additionally, it is useful ensure that the care a patient receives through different providers is synchronized, that procedures and tests are not duplicated, that there is no negative interaction between patient's medications or care, and that the patient does not receive contradictory medical advice.

McKesson Performance Visibility

Managing and streamlining the flow of patients within healthcare facilities can greatly lower costs and improve patient experience. One patient flow management solution is McKesson performance visibility, which enables patient care coordination from admission to discharge. Through electronic tracking boards and screens, the healthcare teams can receive real-time information about a patient's location, status, and estimated time of discharge. It allows for access to information about delays and bottlenecks. Hospitals can continuously use this information to deliver efficient care, and to reduce and manage the length of patient stay.

Allscripts Care Director

Allscripts care director is a web-based patient care management solution. It helps coordinate outpatient care and can assist in managing patient care after hospital discharge. It is a sharable care plan that can be used and accessed across different healthcare settings. It allows for improved patient referral processes and creating a holistic care plan. It aims to reduce readmission rates and decrease redundancies. It examines gaps in care and tracks measurable goals and interventions. Additionally, it is instrumental in the practice of value-based care and the tracking of patient health outcomes.

Mergers and Acquisitions

Some of the interesting mergers and acquisitions associated with the coordinated healthcare theme in the past three years are listed in the table below.

Date Announced	Acquirer	Target	Value ($M)	Target Company Description
Jul 2020	Health Catalyst	Healthfinch	40	EHR applications
Jan 2020	Masimo	NantHealth Inc – Connected Care Business	47.3	Clinical platform providing health information at the point of care
Jan 2020	ProVation Medical	Infinite Software Solutions	Not disclosed	EMR, practice management, and report writing software
Jan 2020	SonarMD	Triggr Health	Not disclosed	AI-based care coordination
Nov 2019	WELL Health Technologies	Trinity Healthcare Technologies	5.4	OSCAR-based EHR services in Canada
Apr 2019	CareDx	OTTR	16	Organ transplant patient tracking software
Mar 2019	Smith & Nephew	Navigating Cancer	12	Data collation and EMR management systems for cancer management
Apr 2018	Netsmart Technologies	Change Healthcare	Not disclosed	Revenue management cycle, patient experience, clinical decision support, healthcare consulting medical network, care operations, communication, and payment, among others

Source: GlobalData

Timeline

Some of the major milestones in the journey of the coordinated healthcare theme are set out in the timeline below.

The Coordinated Healthcare Story

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

1972	The first EHR system was developed by Regenstrief Institute.
1990	Rise of the Internet: Data sharing became easier and computing capabilities were increased, allowing for process automation.
1992	American Academcy of Pediatircs (AAP) used the term medical home and defined it as family-centered and coordinated care for children.
1996	HIPPA legislation passed to ensure electronic protection of medical records.
1997	The US Balanced Budget Act mandated a coordinated care demonstration study for chronically ill medicare recepients.
2003	US congress established the Chronic Care Improvement Program to examine coordinated care.
2004	US president George W. Bush called for universal and portable EHR within a decade.
2006	AWS started offering web-based computing infrastructure services, now known as cloud computing.
2009	Physicians began to use iPhone apps to access Allscripts electronic medical records.
2009	The HITECH Act was passed to promote adoption and meaningful use of EHRs and to address privacy and security concerns.
2019	The Office of the National Coordinator for Health Information Technology reported that 95% of Hospitals employ EHRs.
2020	The 21st Century Cures Act proposed changes that will mandate the ability for a user to control their data sahring. This will end data silos behind commercial systems and promote interoperability and mobility of patient data.

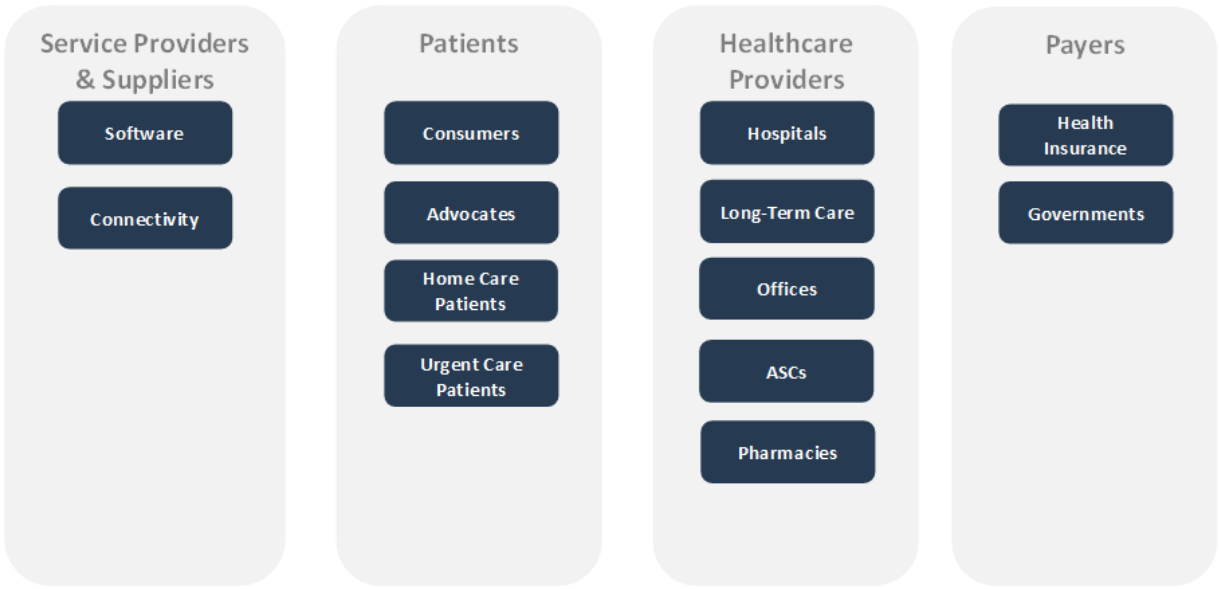
Source: GlobalData

Value Chain

The coordinated healthcare value chain includes different sectors of the healthcare industry. Service providers and suppliers provide the means for some of the solutions, while patients and healthcare providers consume them to advance health outcomes and promote healthcare coordination. Additionally, several coordinated healthcare technologies can aid value-based reimbursement and gathering the data required by payers. Recently, payers have started to recognize the value of coordinated healthcare and begun to encourage its practice through various financial incentives.

The coordinated healthcare theme affects and involves large portions of the healthcare sector. The figure below illustrates the different healthcare sectors and the entities within them that are most affected by this theme.

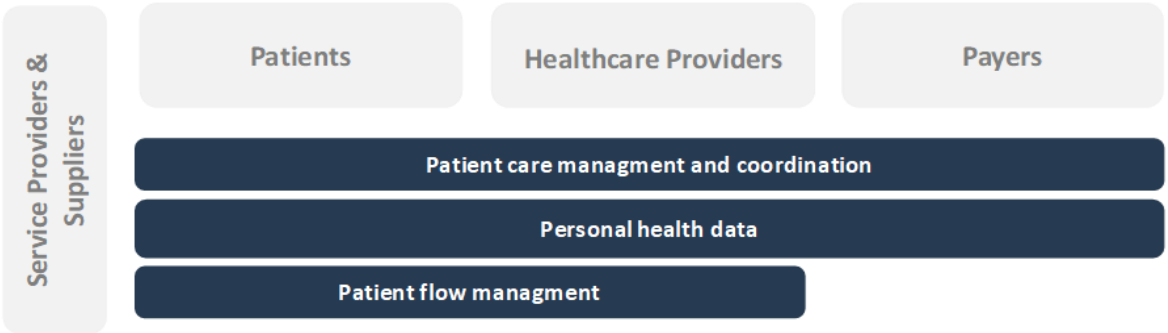
Healthcare Value Chain, Coordinated Healthcare



Source: GlobalData

The figure below illustrates some of the technology solutions provided by service providers and suppliers in the coordinated healthcare theme and their position within the healthcare value chain.

Healthcare Value Chain Level 2, Service Providers and Suppliers



Source: GlobalData

In the following sections, we will look more closely at each segment of the value chain.

Patient Care Management and Coordination

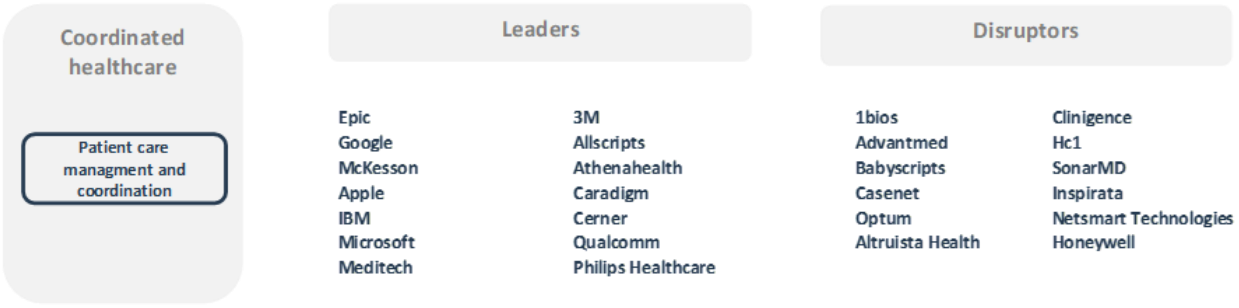
Several companies, such as Allscripts, provide tools and software to aid in patient care management and coordination. They help in drafting and sharing care plans across different healthcare providers. These tools help increase patient safety and quality of care. Additionally, they are also instrumental to the practice of value-based care and tracking patients through the healthcare system.

These tools have a variety of different capabilities, such as creating a holistic, evidence-based plan that can be shared across multiple clinical settings. They can aid in the referral process to different providers and community services. They aim to streamline staff workflow and strengthen the lines of communication with patients.

Care management tools usually cater more to acute care providers and include capabilities to address the hospital inpatient population by coordinating between different providers. Care coordination tools may be set up to coordinate care for patients in a variety of different settings, with a larger number of stakeholders such as pharmacies, caregivers, mental health care providers, and more.

As the emphasis on care coordination continuous to grow in the healthcare sector, the demand for these health IT solutions will also continue to grow.

The Patient Care Management and Coordination Segment



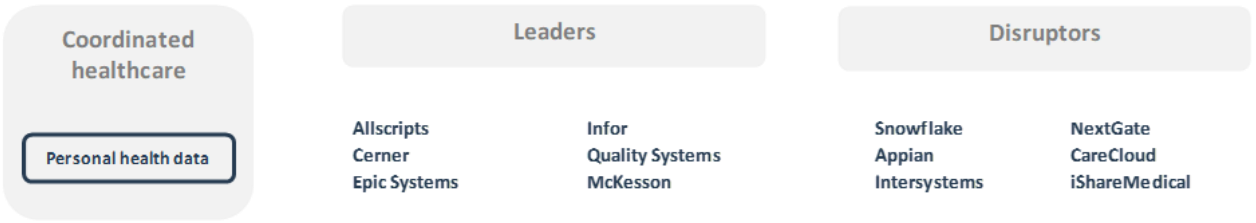
Source: GlobalData

Personal Health Data

Personal health data is an umbrella term for all data that are relevant to an individual's health journey. Data pertaining to an individual's health can come from a multitude of sources, including providers and the patients themselves in the form of patient-generated health data from health monitoring devices and digital health means. These data are usually stored in EHRs. They are curated, governed, and analyzed through health information technology service providers, healthcare providers, and payers. Personal health data are ultimately consumed by patients, providers, and payers to align operations, improve health outcomes, and govern personal and population-based health. In order for the data to be useful, they must be accessible to every entity involved in a patient's health journey, whether that is a healthcare provider, payer, or the patient themselves. GlobalData forecasts that there will be a trend toward the full interoperability and accessibility of health data to better allow for the full realization of its potential and to identify trends and insights in healthcare.

Some of the players in the health IT sector who are active in this space are listed in the figure below.

The Personal Health Data Segment



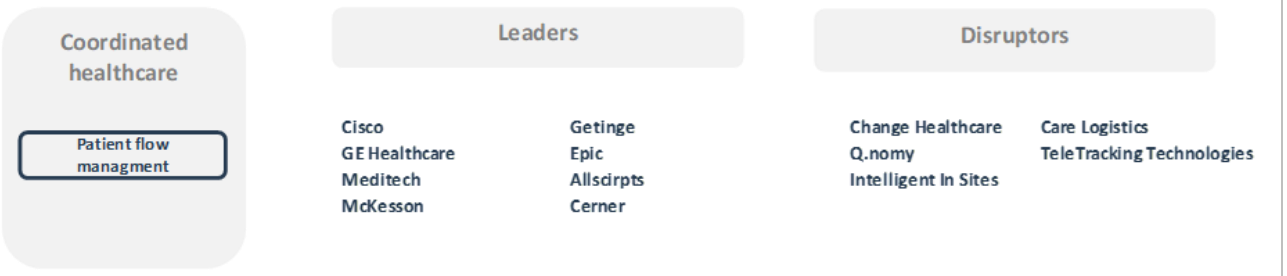
Source: GlobalData

Patient Flow Management

Optimizing and streamlining the flow of patients within healthcare facilities can greatly lower costs, as well as improve patient health outcomes and experience. Some of the healthcare IT players offering patient flow management solutions are listed in the figure below. Solutions are targeted toward capacity management, resource utilization, discharges, transfers, forecasting, coordination inside and between hospital departments, and smooth transition and movement of patients. These solutions may be used in smart hospitals and aim to increase hospital-wide efficiency and patient and staff satisfaction. They can aid in increasing operational visibility, improving access to care, reducing wait times, preparing the hospital for potential surges, and more.

As hospitals look to lower costs and continue to focus on delivering effective and patient-centric care, the demand for patient flow management solutions will grow.

The Patient Flow Management Segment



Source: GlobalData

Companies

In this section, GlobalData highlights publicly listed and private companies that are making their mark within the coordinated healthcare theme.

Public Companies

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

Company	Country	Competitive Position in the Coordinated Healthcare Theme
Allscripts	US	Allscripts is a provider of healthcare information technology solutions. The company's key solutions include EHR, financial management solutions, population health management solutions, precision medicine, and consumer solutions. The company's service offerings include consulting services, managed IT services, education, hardware and hosting services. Allscripts serves retail pharmacies, pharmacy benefit managers, physicians, hospitals, governments, health systems, health plans, retail clinics, and post-acute organizations
Alphabet (parent company of Google)	US	Google is a leader in IoT, and its diverse range of technologies makes it an end-to-end player. The success of its Android mobile operating system (OS) means that 70% of the world's smartphones come under its control. After Amazon and Microsoft, it is the most important player in cloud infrastructure services, providing much of the backbone for IoT. Google has continued to expand its presence in healthcare through various digital and smart health solutions. It created Project Nightingale in collaboration with Ascension to store and process large amounts of patient health data. In 2019, Google partnered with EHR company Meditech to make EHRs available through Google Cloud.
Apple	US	Apple is one of the top beneficiaries of IoT. Its ecosystem is so broad that it is virtually an end-to-end player. It makes a range of connected devices that collect data and processes that data itself on iCloud. It owns the App Store, which acts as a gateway to the connected world, and it is developing "control hubs" for the automated home, the connected car, and wearable technology, including medical wearable devices. Apple's iOS and iPadOS apps can be used in a smart hospital for easier access to patient information and continued patient care at home.
Cerner	US	Cerner is a provider of healthcare information technology solutions and related services. It offers a comprehensive range of solutions and services that assist the clinical, financial, and operational needs of organizations. The company's major solutions include ambulatory care, critical care, acute EHR solutions, women's health, customer relationship management, patient engagement, and revenue cycle management. It offers solutions on the unified Cerner Millennium architecture and the HealtheIntent cloud-based platform. Cerner offers various services such as implementation and training, remote hosting, revenue cycle services, operational management, healthcare data analysis, support and maintenance, consulting, and clinical process optimization. It serves physicians, laboratory technicians, nurses, pharmacists, front- and back-office professionals, and consumers.
Cisco	US	Cisco became a leader in the Industrial Internet and is influential in the standard-setting process. It is also attempting to carve a niche for itself in providing back-end cloud infrastructure for IoT. In the healthcare space, Cisco helps maximize IoT and provides solutions to address telehealth, personalized patient experience, clinical workflow, and more.

Company	Country	Competitive Position in the Coordinated Healthcare Theme
IBM	US	IBM is one of the leaders in the industrial Internet. It is influential in the standard-setting process. It also has several initiatives in creating smart cities. Together with Amazon, Google, and Microsoft, it is a major player in cloud infrastructure that supports IoT. However, even as it succeeds in the cutting edge of this technology cycle, its legacy database business may drag earnings growth down in the medium term. IBM is also a leader in big data analytics, AI, cybersecurity, and blockchain technologies. All these technologies are being incorporated into its Adept platform. Adept is being co-developed with Samsung. IBM is a technology powerhouse across a broad front, and it is one of China's closest partners in helping the company upgrade its domestic advanced computing stack. Watson, its famed natural language AI system, is currently focused on helping surgeons and clinicians with diagnoses and prognoses.
McKesson	US	McKesson distributes medicines and provides both healthcare services and information technology solutions. The company develops and provides decision support software and systems to assist clinicians and physicians in clinical diagnosis and treatment. McKesson offers a variety of products that aid in coordinated healthcare, such as its EHR products and the McKesson Performance Visibility solution, which provides timely details about patient status and location, as well as delays and bottlenecks in a facility.
Microsoft	US	Microsoft is a technology company that develops, licenses, and supports software products, services, and devices. The company offers a comprehensive range of operating systems, cross-device productivity applications, server applications, business solution applications, desktop and server management tools, software development tools, and more. It provides a broad spectrum of services including cloud-based solutions for various industries, including healthcare. Some of Microsoft's healthcare-specific products include solutions for personalized care, operational outcomes, health information protection, and more.
Qualcomm	US	Qualcomm aims to dominate the connectivity layer. Its communications chips cover a wider range of wireless technologies than any of its rivals. Qualcomm is strong in 3G, 4G, Wi-Fi, and Bluetooth. It will almost certainly be strong in 5G. Qualcomm Life provides patients with medical-grade care with end-to-end connectivity solutions and data integration. It offers Medical IoT in integration with mobile technology. Its 2net and Capsule platforms facilitate capturing, connecting, integrating, and analyzing data into hospital EMRs, and with other enterprise systems for data management

Source: GlobalData

Private Companies

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

Company	Country	Competitive Position in the Coordinated Healthcare Theme
Epic Systems	US	Epic Systems is an IT company that provides healthcare software. Its major solutions include EpicCare ambulatory EMR, specialty software, inpatient clinical system, access software, and other hospital-related software for administrative purposes and patient-related activities. The company provides clinical systems for doctors, nurses, emergency personnel, and other care providers; ancillary systems for lab technicians, pharmacists, and radiologists; and billing systems for care providers and insurers. It also provides services such as implementation, optimization, and training services. Epic's MyChart provides shared medical records to patients. Epic offers its software for mid-size and large medical groups, hospitals, and integrated healthcare organizations.
Meditech	US	Meditech is a healthcare information technology solutions provider. The company develops, manufactures, licenses, and supports computer software products for the hospital market. Its software solution supports the complete spectrum of healthcare, including hospitals, ambulatory care centers, physician's offices, long-term care and behavioral health facilities, and home health organizations. Meditech's software solutions include applications for patient care management, long-term and ambulatory care, patient identification and scheduling, behavioral health, financial clinical information management, and reimbursement management.
Philips Healthcare	US	Philips Healthcare, a subsidiary of Koninklijke Philips, is a digital healthcare company that connects medical technology and data with people worldwide. The company offers *in vitro* diagnostic systems, ultrasound systems, radiation systems, and advanced imaging systems. It also offers managed care services, laboratory solutions, and population health management services. Philips's care coordination capabilities allow for better patient health outcomes, sharing of patient information across EHRs, and seamless workflow.
Optum	US	Optum, a subsidiary of UnitedHealth Group Inc, is a healthcare service provider that offers health IT, pharmacy care services, population health management, data and analytics, financial services, health care delivery, revenue cycle management, and health plan operations. The company also offers operations and administration for the health plan market and the identification of markets, as well as to navigate regulations and other services. Optum's care' coordination platform allows for coordination between care managers, patients, and their care givers.

Source: GlobalData

Glossary

Term	Definition
AI	This refers to software-based systems that use data inputs to make decisions on their own.
Big data	This encompasses extremely large data sets that may be analyzed computationally to reveal patterns, trends, and associations, especially relating to human behavior and interactions.
Cloud computing	This is 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.
Cybersecurity	This is the practice of defending computers, servers, mobile devices, electronic systems, networks, and data from malicious attacks.
Data interoperability	It refers to the ability of customers to switch and transfer data across digital service providers.
Data privacy	This refers to the way in which customers' information is handled and shared by a company based on its importance, individual's consent, or regulatory obligations.
EMR	This is an electronic version of a patient's medical history, which is maintained by the provider over time, and may include all of the key administrative clinical data relevant to that persons care under a particular provider.
GDPR	This 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.
IoT	This describes the use of connected sensors and actuators to control and monitor the environment, the things that move within it, and the people that act within it.
Smart hospital	Smart hospitals utilize integrated technologies to deliver seamless and highly efficient healthcare tailored to each individual. Devices, patients, and personnel can be efficiently tracked and coordinated using IoT to ensure that patient wait times are minimized and patient treatment is optimized.

Source: GlobalData

Further Reading

GlobalData Reports

Publication Date	Report Title
20 July 2020	Personal health data
26 August 2020	Smart hospitals

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 CEO awake at night. GlobalData's thematic research 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 the important 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 companies in all sectors based on their relative strength in the big investment themes that are impacting their industries. Our thematic engine identifies which companies are best placed to succeed in a future filled with multiple disruptive threats.

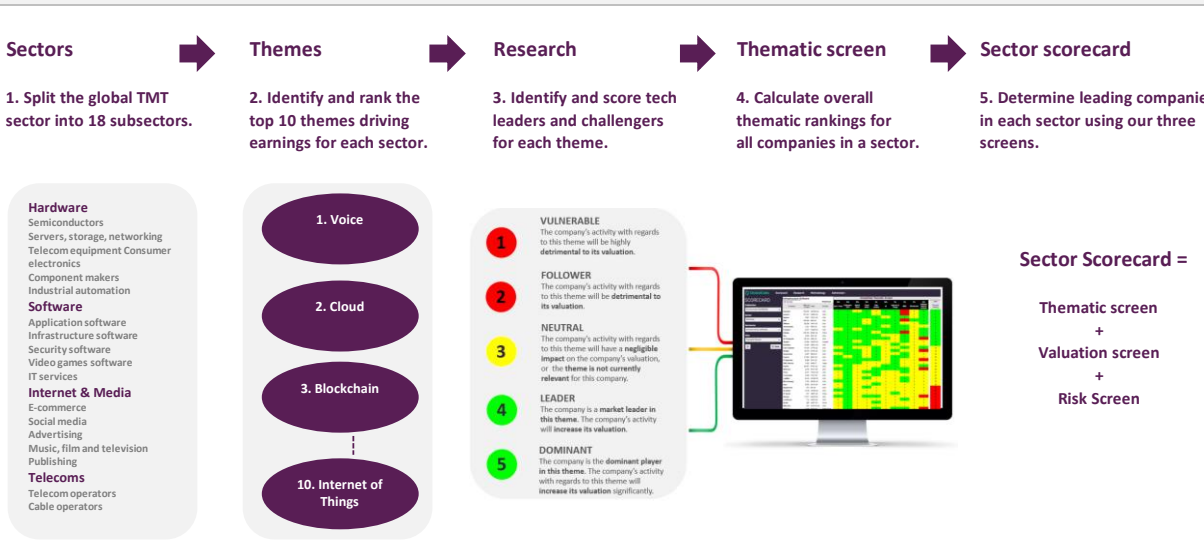
To do this, we rate the performance of the top 1,000 companies against the 50 most important themes impacting those companies, generating 50,000 thematic scores. The algorithms in GlobalData's thematic engine help to identify the long-term winners and losers within each sector.

How do we create our sector scorecards?

First, we split each industry into its component sectors, because each sector is driven by a different set of themes. Using the technology, media, and telecom industry as an example, we split this industry into the 18 sectors shown in the graphic below.

Our Five-Step Approach for Generating a Sector Scorecard

Here we use the technology, media, and telecom sector 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 the relative importance of specific themes 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 help us determine which companies are best positioned for a future filled with disruptive threats. Each sector scorecard has three screens:

- **The thematic screen** tells us who are the overall technology leaders in the 10 themes that matter most, based on our thematic engine.
- **The valuation screen** tells us whether publicly listed players appear cheap or expensive relative to their peers, based on consensus forecasts from investment analysts.
- **The risk screen** tells us who the riskiest players in each industry are, based on our assessment of four risk categories: corporate governance risk, accounting risk, technology risk, and political risk.

How do we score companies in our thematic screen?

Our thematic screen ranks companies within a sector based on overall technology 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 with regards to this theme will be highly detrimental to its future performance.
2	**Follower**	The company's activity with regards to this theme will be detrimental to its future performance.
3	**Neutral**	The company's activity with regards to 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 with regards to this theme will improve its future performance.
5	**Dominant**	The company is a dominant player in this theme. The company's activity with regards to 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 (such as AI). They identify winners and losers based on technology 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.

Contact Us

If you have any more questions regarding our thematic research services, please get in touch.

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