Microsoft

The Digital Healthcare Playbook

Throughout history, innovations have emerged to shake up industries. Today, digital transformation is a significant source of that business model disruption.

Consumers want friction-free personalized experiences, which means every business must continuously innovate to compete. In retail and financial services, advancements such as online banking or shopping via a mobile app have become the norm. Digital trends like these are now gaining recognition and momentum within the healthcare industry.

Patients expect to be digitally connected to their information and care providers. To meet this demand, health organizations need to dramatically change how they deliver their services. But that's not the only reason the health industry is primed for a paradigm shift. It's also prompted by rising healthcare costs, chronic disease, and an overloaded workforce.

By embarking on a digital transformation journey, you can ensure your healthcare organization is meeting the needs of both consumers and clinicians. Along the way, you'll drive excellence in healthcare delivery and affordability for savvy patients and consumers.

Proactively envisioning the future can help your organization map and achieve important next steps. To be successful, look to the same tools and technologies causing digital disruption in other industries.

Digital transformation is changing the way healthcare works. It's another chapter of history unfolding before our eyes.

"Every business is a digital business."

—Satya Nadella, CEO, Microsoft

64%

of patients say that they use a digital device and mobile apps to manage their health.

71%

believe it would be helpful for their doctor to have access to this information as part of their medical history.

Source: "Patients Regard Open Access to Their Medical Records as Critical to Receiving High-Quality Health Care," survey published by Transcend Insights

Reimagine healthcare with Microsoft

New technologies within the healthcare industry can help you with challenges such as aging populations and declining budgets. Through improved digital connections, you will be able to understand the needs and desires of all involved parties, leading to desirable outcomes. Along the way, you can provide better experiences, insights, and care.

> So, how do you get there? To reimagine healthcare, you need a new technology model.

"The function of entrepreneurs is to reform or revolutionize the pattern of production by exploiting an invention or, more generally, an untried technological possibility for producing a new commodity or producing an old one in a new way, by opening up a new source of supply of materials or a new outlet for products, by reorganizing an industry, and so on."

—Joseph A. Schumpeter
Former Professor of Economics
Harvard University

For modern businesses, people expect fast and intuitive experiences where they can come together to communicate, collaborate, and learn. To modernize your healthcare organization, you can refine your measures by providing a holistic view of patients, accessing new channels of care (at-home testing, diagnosis, and digital tools, for example), and sharing personal health information. Boosting care quality also comes from better insights once you have the ability to monitor change and explore provider variation.

Along with patient care, you need to take care of your team, improving their work-life balance and decision-making capabilities. With the right set of tools and redesigned workflows, you can enable your team to create insights from information in real time. This empowers them to be more productive and collaborative while engaging patients in personalized ways—wherever they or their patients may be.

Microsoft can help you transform your healthcare approach, unlocking the value of data, intelligence, and engagement. While healthcare IT has traditionally focused on hospital-based electronic health records (EHRs), Microsoft envisions more efficient processes.

The Microsoft model is to complement systems of record with systems of insight, which analyze data to help us predict and prevent health incidents and determine effective treatments. Systems of engagement enable users to directly interact with and experience technology, letting patients interact with healthcare providers in new ways.

90%

of health executives said they believe it is critical to adopt a platform-based business model and engage in ecosystems with digital partners.

Source: Digital Health Technology Vision 2017

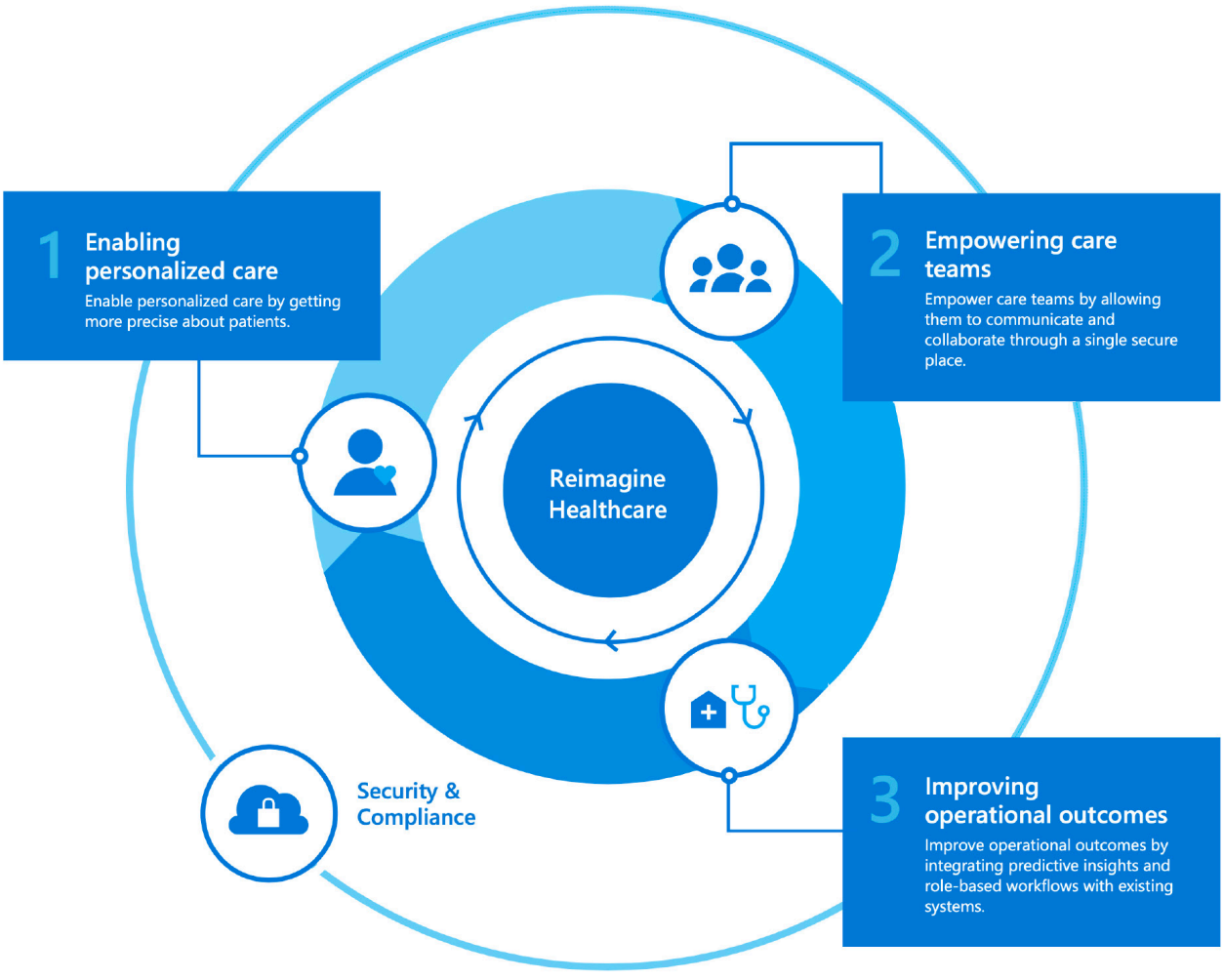
The Microsoft vision for reimagining healthcare encompasses the following

Enable personalized care by getting more precise about patients. Provide secure 360-degree access to patient information to all stakeholders and deliver information through user-friendly tools to facilitate patient education and interaction.

Empower care teams by allowing them to communicate and collaborate through a single secure place, which integrates data, clinical systems, apps, and EHRs. Gather data from all sources, including remote devices, to provide timely alerts, interventions, and personalized treatment plans.

Improve operational outcomes by integrating predictive insights and role-based workflows with existing systems. Create proactive treatment and wellness plans while ensuring compliance and confidentiality.

Reimagine healthcare



Empowering healthcare with Microsoft-trusted technologies and partners

Working together with the right technologies can strengthen healthcare teams. It provides opportunities to build on innovative ideas, share challenges, and celebrate successes. Collaboration can lead to results that are measurable and more positive for healthcare organizations and, ultimately, the global population.

This is how Microsoft envisions the next wave of healthcare: both digital and connected. Microsoft engages with industry customers and partners, developing strategies and repeatable solutions that harness the power of the cloud, Microsoft 365, machine learning, AI, and wearable technologies to drive innovation and transformation within the healthcare industry. Partners have created intelligent health solutions built on Microsoft-trusted technologies that are allowing healthcare organizations to enable personalized care, empower care teams, and improve operational outcomes.

The Microsoft health vertical is substantial. With over 168,000 health customers and an estimated 14,000 partners, Microsoft has a broad base for telemetry.

> Making technologies trustworthy for customers and partners is a key priority for Microsoft.

This means keeping information private, being transparent about datacenter operations, and letting users manage their own data. To ensure compliance, Microsoft has invested in industry certifications like HIPAA through a Business Associates Agreement, HITECH, and FedRAMP. By working with trusted partners, Microsoft can help you build on economies of scale with platforms and data to create a collective knowledge that boosts healthcare standards. This approach improves access and patient outcomes while protecting privacy and achieving compliance at every step of the patient journey.

For health organizations, this means an ecosystem of partners on a standard technology platform that provides capability and choice as well as security and regulation compliance.

Explore the e-book: Five tactics for improving security and compliance in healthcare

Combined with emerging technologies and partners, the Microsoft-trusted platform gives healthcare organizations new capabilities to transform. But real transformation only happens when organizations bring their people along with them. It requires organizations to equip their employees with the right tools to enable them to be part of a solution, making them more responsive, data driven, and customer centric.

Enable personalized care

Start with these questions

- Based on their experiences in retail and online shopping, do your customers demand a similar level of access and empowerment when managing their health and making treatment decisions?
- Are you able to create prevalent relationships with your patients, where patients can contact your team and receive personalized advice whenever and wherever they need it?
- Are you feeling challenged to deliver more convenient, transparent, and high-quality patient experiences?
- Are you providing secure access to portals and mobile tools for better care?

Benefits

- Give better care transparency and faster service
- Nurture direct and lasting relationships with patients
- Improve the quality of patient care and outcomes
- Provide broader access to needed services
- Connect with patients in new ways and put them in control of their health
- Strengthen patient relationships with intelligent services

What should your strategy be?

Patient engagement strategies are about more than merely adding a pleasant veneer to a healthcare encounter. These solutions should let your teams collect, connect, and share information from multiple sources in real time—allowing patients to access up-to-date, accurate, and personalized health information and care when and where they need it.

Put patients in control with reminders and secure access to their health data, care plans, and wellness from anywhere. Deliver value-added patient services like remote monitoring and alerts based on predictive healthcare analytics for long-term personal engagement.

How can it help your organization in the digital transformation journey?

Connecting with patients at the right time, and with the right information, encourages them to be more involved. By staying connected to patients and keeping them informed, you're also increasing their satisfaction with your services.
Provide a 360-degree view of patients across departments and caregivers to improve treatment. Build your brand by extending your relationships beyond healthcare providers and physicians to consumers. Gain insights from complex data to develop precision medicine and treatments for different patients and groups. Increase trust and reliability using secure portals and mobile tools.

64%

of patients use a digital device to manage their health, expecting a similar ease of use in these digital experiences as in retail and other industries.

Source: Transcend Insights

Case study

Children's Mercy Hospital app brings doctors home (virtually) for babies born with heart disease

Children's Mercy Hospital in Kansas City changed how they monitor certain cardiac conditions at home, replacing the traditional three-ring binder with an online record shared in real time with the care team. They received a Health Innovation Award for its Cardiac High Acuity Monitoring Program (CHAMP).

CHAMP consists of a Microsoft Surface tablet with Windows 10, connected to a database that sits in the Microsoft Cloud. The family enters the baby's information in the app throughout each day and the data is relayed to the health team in real time. If any measurements are outside normal cardiac parameters, such as too little or too much oxygen saturation, the baby's medical team is automatically alerted. The addition of video footage from the webcam has made a dramatic improvement, and the mortality rate of hypoplastic left heart syndrome has decreased from 20 percent to low single digits.

"If we follow 30 kids a year, that's a whole kindergarten class that was saved, and that's crazy. We didn't know what we didn't know before and didn't realize that we were missing trends due to only getting numbers once a week."

Lori Erickson
Nurse Practitioner and Clinical Coordinator
CHAMP

Microsoft

Personalizing healthcare

Engaging patients in a digital age

Learn more

Explore our patient engagement e-book to discover what new patient engagement solutions look like and how you can implement them in this digital age.

Empower care teams

Start with these question

- Do you feel that your caregivers are seeing more patients and spending less time with each, leading to caregiver overwork and burnout?
- Have you invested heavily in EHR systems, but your clinicians still struggle with the work and information overload?
- Do your clinicians spend too much time on administrative tasks, detracting from their ability to care for patients and contributing to burnout?
- Is it challenging to share information and knowledge across organizations due to incompatible tools, resulting in delays in the care experience?
- Are you able to continuously monitor the patient's condition by gathering data from remote devices?

Benefit

Improve patient care by enabling seamless communication and collaboration

Boost the quality and outcomes of health services through data-driven care

Improve the clinician experience and care team productivity

Enable clinicians and consumers to make more informed choices at the point of decision

Offer familiar tools for communication, collaboration, and virtual health

What should your strategy be?

Empowering your care team is not only about storing patient information in one place. It's about being able to communicate and collaborate in a single secure place, integrating data, clinical systems, apps, and EHRs. Getting insights into each patient's care needs and improving workflows help care teams deliver the right care at the right time. They can collaborate more effectively across departments, providers, and other stakeholders to create and manage personalized care plans for patients.

Continuously monitor the patient's conditions by gathering data from remote devices to provide timely alerts, interventions, and personalized treatment plans. Give care teams ready access to real-time information so they can update it from wherever they are.

How can it help your organization in the digital transformation journey?

With better tools for information sharing and coordination, health organizations can be more effective and productive. Care teams should spend less time on travel, logistics, and other administrative tasks, and more time on higher-value work. Share knowledge easily and securely across health teams with advanced messaging features, including priority notifications, smart cameras, and message delegation. Boost personal productivity and coordinate more efficiently with colleagues, both inside your organization and across geographical and organizational boundaries. Align activities of clinical personnel to deliver patient-centric care, applying the specialization of multidisciplinary teams and surfacing relevant insights.

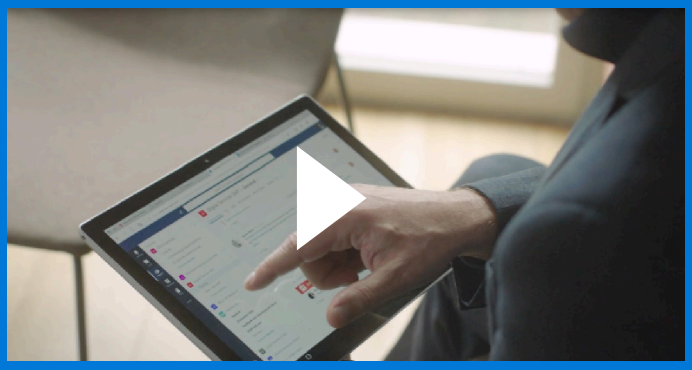
"Patients were also asked to rate factors that are most important to receive personalized care. Top priorities for patients included having access to their medical records (92 percent) and the ability for care providers to easily share and receive important information about their medical history—wherever they needed treatment (93 percent)."

Survey: Patients Regard Open Access to Their Medical Records as Critical to Receiving High-Quality Health Care

Source: Transcend Insights

Case study

United Kingdom's public health system is improving patient experience and clinician collaboration with Microsoft Teams

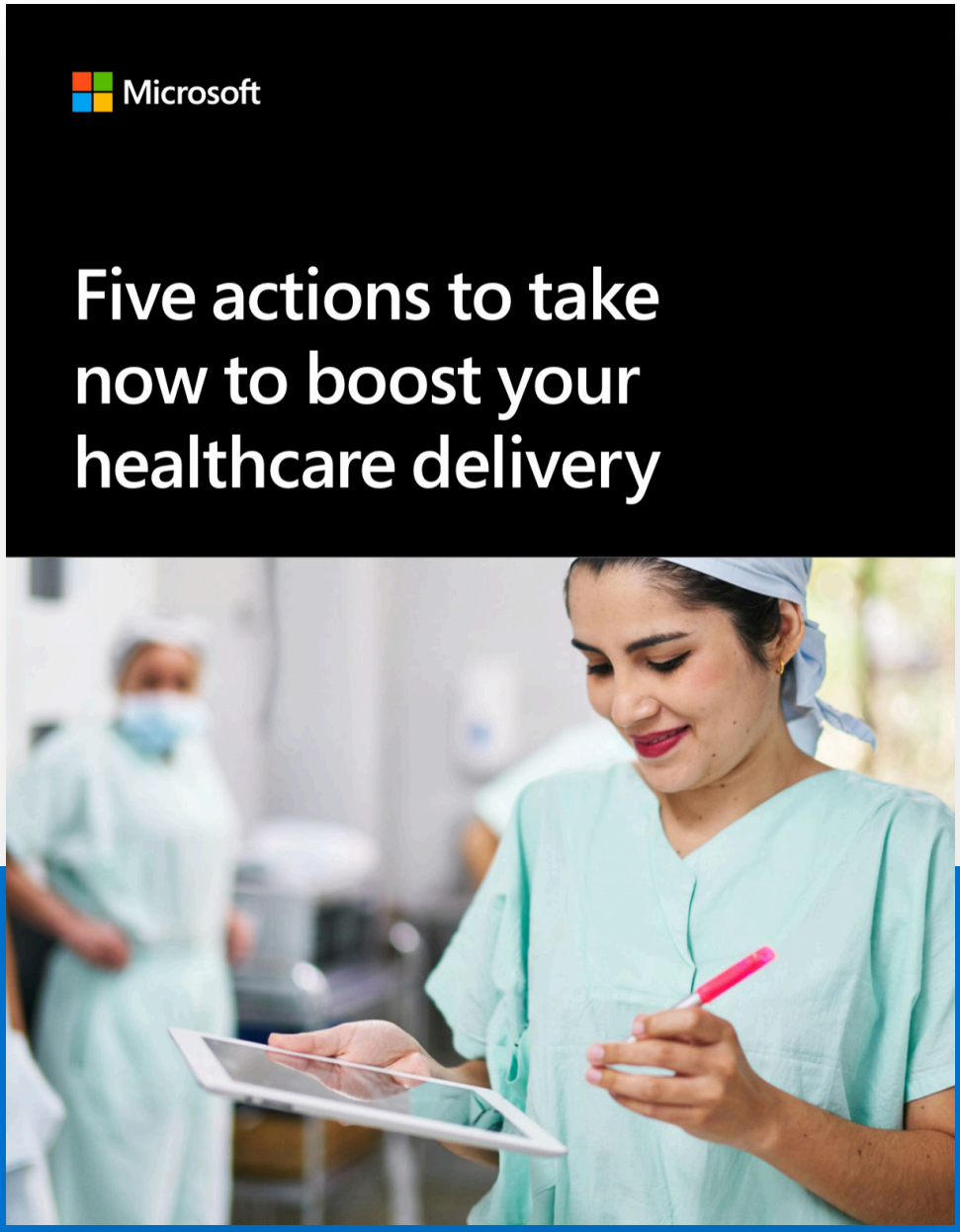


The National Health Service (NHS) is the United Kingdom's public health system, providing healthcare to more than 65 million residents across the four constituent countries of the United Kingdom. Capacity planning is a big challenge for NHS. To improve the flow of information and decision making, South London and Maudsley NHS Foundation Trust (SLaM) introduced Teams—the hub for teamwork in Office 365—and brought the different groups together on a single platform.

With this implementation of Teams, Microsoft Power BI, and Office 365, NHS SLaM has narrowed down the number of beds and thoroughly optimized capacity planning. As a result, the monthly cost was reduced and trust among team members was increased. Teams enables a more productive exchange of information, communication, and effective collaboration. By using the right tools to analyze and understand data, NHS SLaM empowers its clinicians to improve overall patient experience, outcomes, and IT costs.

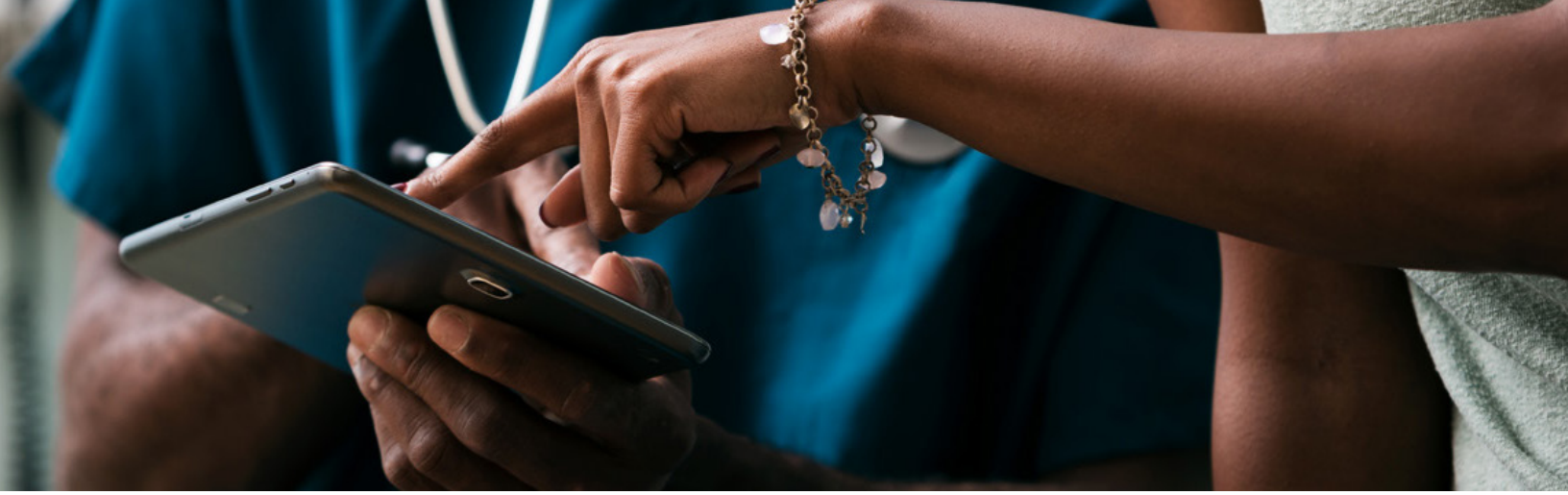
"The platform is so easy and enables a lot more collaboration and information sharing taking place. Microsoft gives us the right tools, and we use them for customer inclination and to better serve them."

Stephen Docherty
CIO, SLaM NHS Foundation Trust
Chair, London CIO Council



Learn more

Explore our care coordination e-book to gain a better understanding of how you can empower your healthcare teams for better care coordination.



Improve operational outcomes

Start with these questions

- What are you doing to manage and drive insights from fast-growing health data?
- How are you handling expanding caseloads and patient throughput?
- Do you have systems in place that can amalgamate data from multiple sources, pick out trends and patterns, and use that information for further treatment prediction and recommendations?
- How are you accelerating the responsiveness of the business, improving service levels, and reducing operational cost?
- How are you managing clinical risks such as readmissions and hospital-acquired infections, as well as financial risks such as fraud and security breaches?

Benefits

Increase patient throughput

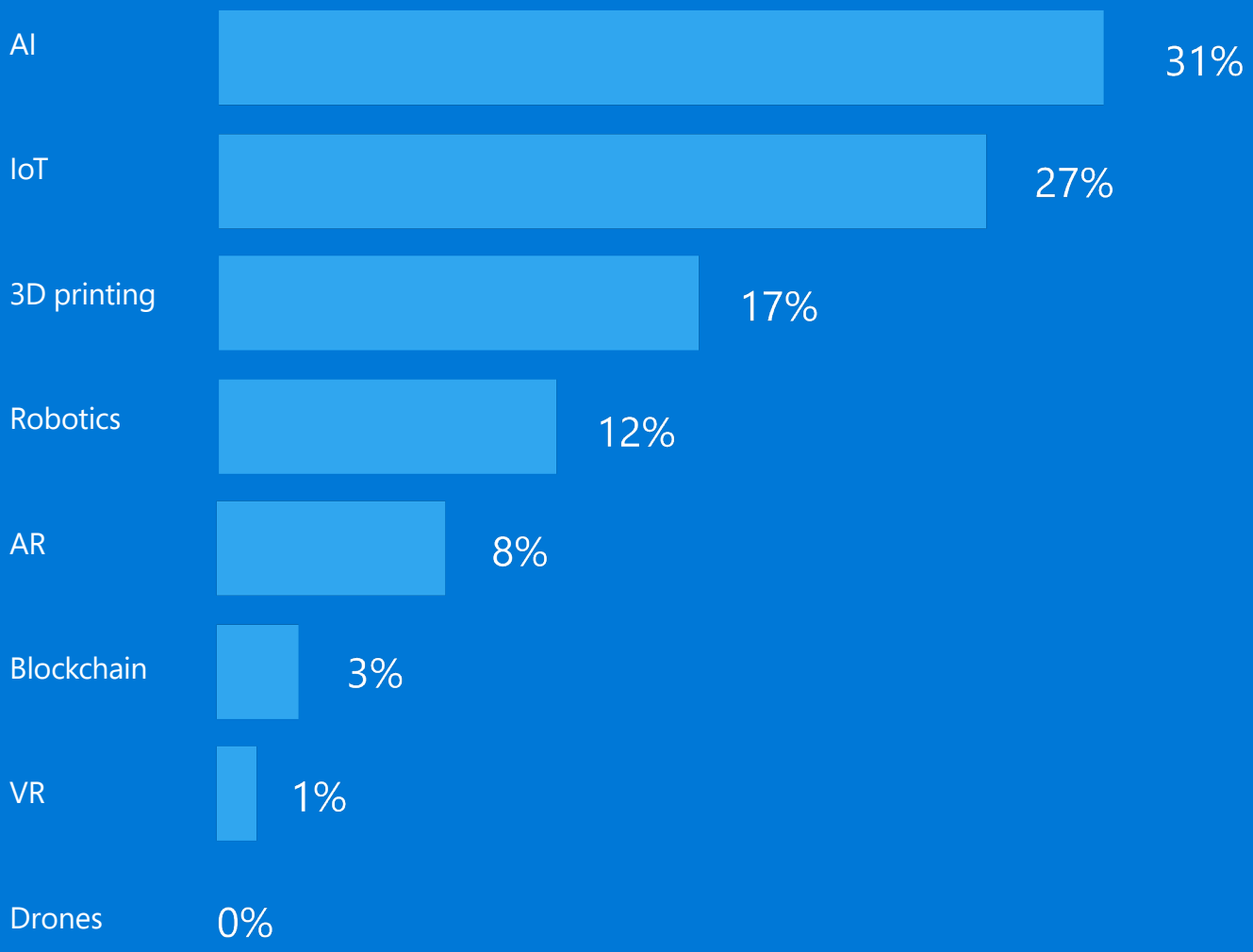
Base decisions on actionable health information

Improve efficiency with operational insights and track performance metrics

Lower costs and reduce risk

Streamline operational processes

Healthcare executives rate AI as the most disruptive technology in the industry



Source: Globally, healthcare executives rate AI as most disruptive tech in the industry, followed by IoT (PWC Report)

What should your strategy be?

By taking advantage of predictive insights, you can proactively manage hospital operations. Through analytics engines enhanced through machine learning and AI, you can identify at-risk patients and optimal treatments. Use your data to risk stratify patients, diagnose operational failures, track safety metrics, monitor equipment health, maintain the integrity of your supply chain, and identify fraud.

By increasing the knowledge and insight of providers, administrators, payers, and government personnel, you can improve health throughout the community.

How can it help your organization in the digital transformation journey?

Make better data-driven decisions and take actions that drive improved patient and business outcomes. Increase healthcare delivery efficiency by analyzing and revamping internal processes. Reduce process latency and redundancy by creating proactive treatment and wellness plans. Use automated tools to streamline operations, reduce costs, and deliver better health outcomes. Identify trends and patterns to determine best practices to increase throughput, reduce waste, and optimize resource allocation in the process of delivering care and developing new offerings.

The European Commission calls out profound challenges that their healthcare systems are facing and the need for new technologies and approaches that better leverage data.

Source: Communication on enabling the digital transformation of health and care in the Digital Single Market; empowering citizens and building a healthier society

Case study

Oculys Health Informatics is revolutionizing healthcare with secure, real-time information

Oculys Health Informatics and Microsoft are transforming patient healthcare at Markham Stouffville Hospital. With Oculys prEDict, Performance, and KeepNTouch, Markham Stouffville Hospital can securely use real-time data in the cloud to effectively make decisions to profoundly improve patient experience and operational performance.

By delivering unprecedented real-time visibility, Oculys connects leaders and teams to the pulse of their hospital's operations—from emergency department wait times and operating room performance to bed utilization and patient-flow bottlenecks—while maintaining the highest standard of patient privacy.

"You can see the patient moving through the organization in real time, which enables every single care provider to understand the entire journey of the patient. As a result of doing that, we have been able to cut down the number of processes that usually take very long; for example, from initiating the patient from admission to bed, the hospital may reduce as much as 57%."

Franck Hivert
President and CEO
Oculys Health Informatics

Microsoft

Breaking down AI:

10 real applications in healthcare

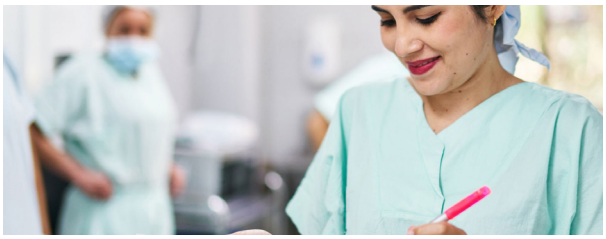
Learn more

Explore our AI in healthcare e-book to understand how analytics are being used to optimize clinical and operational effectiveness in the healthcare industry.

Reimagine your healthcare organization

Enable personalized care

Get more precise about patients. Provide secure 360-degree access to patient information to all stakeholders and deliver information through user-friendly tools to facilitate patient education and interaction.



Improve operational outcomes

Integrate predictive insights and role-based workflows with existing processes. Create proactive treatment and wellness plans while ensuring compliance and confidentiality requirements.

Empower care teams

Allow teams to communicate and collaborate through a single secure place that integrates data, clinical systems, apps, and EHRs. Gather data from all sources, including remote devices, to provide timely alerts, interventions, and personalized treatment plans.

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