



# How data and AI are helping healthcare organizations make a genuine human impact

3 AI-driven solutions focused on what matters most for patients and providers

## Rethink data and AI to build an agile and above all resilient healthcare organization

Many healthcare leaders are thinking more critically about digital health and investing more strategically in artificial intelligence (AI) than ever before. In fact, about [80% of healthcare organizations](#) plan to increase their digital investments moving forward. This decision is even more critical as pressure continues to mount from staffing shortages to the unrelenting impact of the pandemic.

### Prioritize digital innovation to solve immediate problems

Powered by the cloud, AI technologies like machine learning (ML), natural language processing (NLP) and cognitive apps are proving invaluable to quickly and efficiently address many of the challenges healthcare professionals face.

The question now for most healthcare leaders is not if or when to invest in AI. More importantly, it is deciding where to prioritize investments in AI-driven technologies for the greatest immediate value.

### Increase the value of your digital investments

A modern data ecosystem and AI-infused processes can drive incredible value at scale. This value translates into greater agility and resilience to better manage and harness continual change. So where should you prioritize your investments for the greatest impact?

### 3 AI-driven innovations at the top of the list

Here are three ways you can use AI to rapidly provide a highly personalized care experience with greater data insights, enhance care team collaboration and increase patient engagement.

1. **Precision Medicine**  
Enable more precise diagnostics and treatments that will work best for everyone across a diverse population
2. **Connected Personalized Care**  
Create a better informed, human-centered care experience connecting physicians and their patients for improved care team coordination and better outcomes
3. **AI Powered Telehealth**  
AI in telehealth enables physicians to reach patients no matter their location with real-time, rich, data-driven decisions to help increase patient engagement.

## The power of the cloud and AI

With cloud enabled interoperability, AI technology is making it possible to provide incredible outcomes and accelerate human-centered process improvements unique to healthcare.

The compute power now available to run models and cognitive services is a game changer. [Acceleration of time-to-value](#) by leading healthcare providers and health plans worldwide is a key feature of cloud adoption with respect to data.

## Applying precision medicine in practice

Precision medicine uses AI to analyze massive collections of medical and public health data, including genomics and social determinants of health. With AI-driven insights, providers can rapidly identify unique disease risks and treatments. Precision medicine can also unburden doctors who use it. But unless the experience of its application is effortless, then much of the benefits may be lost.

At Avanade, we talk about AI in healthcare with real use cases in mind, replicating the best of the best with access to data and tools that most providers don't have so that the practice of precision medicine becomes common place.

### Better data leads to increased insights

Another key factor in the practice of precision medicine is the data used to fuel new insights. Our data-analytics solution sits on the [Healthcare on Azure](#) platform with access to the broadest set of data in the market to help better predict and manage disease.

It's based on privacy-protected and anonymized medical records - data from over **54 million patients** (billions of electronic health records (EHR), inpatient and ambulatory, including longitudinal data up to 12 years).

Our data platform not only helps quickly organize and match information from multiple data sources, but it also helps global clients govern data to ensure compliance with country/region specific health and privacy regulations.

### Personalized treatments with genomics

With the mapping of the genome in combination with new, analytical scientific and technological advances, we want to help our clients quickly identify and recommend interventions tailored for each individual, rather than using the same approach for everyone.

We bring capabilities from early research through full commercialization in combination with deep technology and digital expertise to help our clients deliver personalized healthcare to their patients.

## How do we help?

### Improve population health

- Quickly analyze and segment populations based on demographics, risk factors, and vaccination status
- Understand the risk factors present in patients for better insights and prevent the spread of infections

### Personalize treatments

- Overlay population genomics linking diseases to genes, variants, pathways and proteins
- Use intuitive dashboards to compare patient outcomes and diagnoses based on phenotypic or genomic linkages.

### Accelerate new discoveries

- Make privacy-protected data available y for internal employees and external researchers to quickly discover, profile, and analyze available datasets.
- Consolidate disparate data and enable integration for improved interoperability

One emerging trend in precision medicine is the use of [artificial intelligence and machine learning](#) to allow earlier interventions and more personalized treatments.



Precision medicine has the potential to change how we diagnose and treat many diseases, including one of the world's most devastating diseases—cancer.

Europe and the U.S. are major centers where oncological applications of precision medicine and research are being performed.



## Client Story

Johns Hopkins and Answer ALS offer new hope to ALS patients.

Answer ALS is a medical research program founded and run [by Johns Hopkins and the Robert Packard Center for ALS Research](#). It's using the power of cloud computing, machine learning, and a powerful, interactive data infrastructure with the ability to harness artificial intelligence to help determine what causes ALS and identify potential treatments.

The team needed a [Microsoft Azure-based](#) data query engine that could process research queries in hours instead of days or weeks. Data security throughout was paramount.

Queries can now return results within minutes or hours vs. weeks. Sharing the Answer ALS data with a research group based in the Netherlands, scientists have identified a gene linked to ALS.



## Connected Personalized Care

### How do we help?

#### Enable proactive, personalized care

- Reduce readmission rates by anticipating and discovering problems earlier
- Promote healthy behaviors without clinical intervention
- Improve clinical decisions with comprehensive actionable data intelligence

#### Empower care team collaboration

- Enable, broader collaboration around improvement ideas
- Better track escalation and resolution of issues
- Make rapid operational and clinical process improvements

#### Improve care coordination

- Reduce time caregivers spend tracking down people and following up on tasks
- Save time discharging patients and better manage lengths of stay
- Reduce administrative burden

87% of physicians surveyed expect remote patient monitoring to be a [vital component of the patient experience](#) in the future.

### AI-powered technologies improve engagement

AI can help drive intelligent automation freeing clinicians from more mundane tasks, so that they are able to focus on what they do best and engage with patients in a more proactive and personalized way.

### Enable care anywhere

The combination of remote patient monitoring (RPM) and AI-powered automation, enables a care team to identify a patient's health status at home or another location. For chronic conditions, this is particularly vital to help accurately anticipate and prevent complications.

The potential for RPM and AI extends far beyond just surfacing raw patient health data into physician-facing reports and interfaces; it enables proactive care and the ability to anticipate adverse events. AI can quickly identify and translate personal health data into clinically useful information for more effective care anywhere.

When providers need to respond to a surge in health-related inquiries – such as those that spike with seasonal illness – AI-powered virtual agents can be built and deployed online in days, not months. Chatbots can answer common questions and providers can easily update virtual agents with the latest medical guidance.

### Enhance care team collaboration and coordination

AI automation coupled with advanced analytics facilitates medical decision-making and end-to-end clinical processes. Providers have risk assessments and recommendations at their fingertips, empowering them to deliver more effective care in real time.

The care team can rapidly share patient information including evidence-based interventions and authorizations, and AI helps supply care teams with much needed data to rapidly coordinate care including discharge planning.






## Client Story

### Healthcare facility maximizes its "in the Home" concept

A world-class healthcare facility was dealing with a significant influx of work in support of the COVID-19 outbreak. It needed to improve its capability and efficiency in the management of patient and care processes including patient registration through to patient health tracking and reporting.

Avanade enabled the hospital to monitor the health of patients at home, under self-quarantine, or at the hospital. Through an app developed with [PowerApps](#), using Power Automate for integration with hospital systems, providers can efficiently create a patient care and action plan and generate documents for recovered patient discharge activities.

This is maximizing the Hospital's "In the Home" concept.



According to a study by MIT, 75% of healthcare institutions that implemented AI acknowledged an augmented ability to treat illnesses, and four in five said it proactively helped avert workplace burnout.

### Leveraging the power of AI in Telehealth

As providers move toward [increasing virtual care](#) options across the care continuum, the potential to use AI in telehealth is expansive. AI in telehealth enables physicians to make real-time, rich, data-driven decisions and is a major factor in providing better health and wellness outcomes.

#### Quickly access and securely share data

One of the most salient benefits of AI in telehealth is the ability to access data and then rapidly translate that data into actionable insights. For example, instead of a physician relying on two or three pieces of medical information (such as medical history, exams and lab results), AI can rapidly extract data from EHRs, medical telemetry products and multiple other devices.

AI can also assist providers by making administrative tasks relating to medical records less onerous through voice-controlled tools based on NLP technology. With this technology, the visit note can be automatically captured and transcribed into the EHR saving significant time.

By scaling this capability, NLP and AI can digitize and organize patient data and paperwork across a large health system. One client used cognitive services to automatically reconstruct 20 million prescriptions a month.

#### Increase patient engagement, improve service

Advances in AI technology, such as voice recognition, have led to the emergence of chatbots or conversational agents. [Microsoft's Cortana](#), for example, has made this a household technology. Motivational messages, appointment or health reminders, symptom checking, and assistance for the elderly in their homes are all healthcare use cases helping empower patients and members to be more engaged in their own care.

Now with a [global shortage of nurses and health workers](#), AI powered virtual agents are also becoming increasingly used for customer service, billing and to answer other general questions.



## How do we help?

#### Improve care experience

- Reduce burnout and provide a better clinician experience with digital tools and AI assistance
- Protect and secure the sharing of patient information and health data

#### Increase engagement

- Provide high-touch, personalized service, meeting patients how, when and where they want to engage
- Improve response time and decrease wait times for better service

#### Empower staff to work efficiently

- Reduce back-and-forth for clinicians between locations and rounds
- Maximize clinician efficiency and streamline or eliminate paperwork

[Microsoft Cloud for Healthcare](#) helps rapidly scale and integrate secure **telehealth capabilities**. Avanade is uniquely qualified to help clients with extensive experience, training and privileged access to Microsoft..






## Client Story

### Integrated solution delivers a better virtual care experience

When COVID-19 hit, the healthcare center needed a way to continue serving patients. It quickly implemented several virtual tools, but the disjointed experience was unpopular with patients and doctors. The healthcare center needed a better solution that would integrate with the EHR system while delivering a virtual experience that clinicians and patients would find easy and effective.

Avanade implemented a Microsoft Teams-based solution that seamlessly integrates with EHRs and connects caregivers and patients virtually via desktops, laptops, tablets and phones. Patients can easily schedule appointments and engage with caregivers and customized content in a branded virtual exam room.



"AI will continue to evolve in telehealth, with a key example being voice AI. There has been a lot of work done on producing voice-to-text over the years, but AI can improve understanding of that text from a contextual standpoint, before integrating it into an electronic health record. This isn't only available for clinics, but also for telehealth."

**David C. Rhew, M.D.**, Managing Director, Global Chief Medical Officer and Vice President of Healthcare, Microsoft



## We bring **global scale** and **expertise in accelerating AI-powered digital innovation** in healthcare

Avanade has a global practice of over 1,000 technical, functional and organizational change professionals, supported by Accenture health strategists and consultants.

Our mission is to couple our unmatched Microsoft ecosystem capabilities with industry knowledge to partner with clients, innovate and help our clients digitally transform to renew and grow resiliently.

### We provide services to a broad healthcare market

The Avanade/Accenture partnership serves health providers, health plans/payors, life sciences and medical device organizations. Through the work we do, we strive to make a positive impact for providers, clinicians, payors, biotech companies and health consumers worldwide.

### We partner with clients worldwide

- 4,000+ clients since 2000
- 46% of Global 500 companies are clients
- 34% of Fortune 500 companies are clients
- 90% of Fortune 500 life sciences companies
- Avanade/Accenture services 41 of the top 100 hospitals (U.S. Thomson Reuters)
- 21 out of 25 largest US Health Plans/Payors
- All top 10 global pharmaceutical companies

### We've received more than 100 Microsoft awards

- 2022 Global Alliance SI Partner of the Year for the 17<sup>th</sup> time
- 2021 Global Dynamics 365 Customer Insights Partner of the Year
- 2021 Global Dynamics 365 Customer Service Partner of the Year
- 2021 Dynamics 365 Supply Chain Management Partner of the Year
- 2021 Employee Experience Partner of the Year
- 2021 SAP on Azure Partner of the Year
- Microsoft 2020 Global Healthcare Partner of the Year
- #1 globally in Teams and Office 365 deployment
- IDC recognized for Microsoft Implementation Services 2021

Let Avanade partner with you to  
**help you renew and grow your digital health  
innovations for increased agility and resilience**

We can offer a **clear accelerated path** to get you started.

**Healthcare Accelerators:** A one-hour video call about how our approach works to support your clinicians, care team and staff.

**Discovery Workshop**

- Ideation to collaboratively co-create the ideal experience and outcomes
- Storyboards to provide the design and build of a demo application

**Design-Led Thinking**

- Design and build with you a demo application based on the outputs from Discovery Workshop
- Final demo that aligns with your ideal outcomes

**Demo and Readout**

- Final demo of the application for your team
- Final readout to summarize activities and outputs
- Detailed readout includes user journeys, personas, outcomes, recommendations, and next steps.

*2-6 Weeks / Virtual Collaborations Offered*

Partner with Avanade to help you reimagine your digital health journey with data and AI

**Contact us** today

**North America**

Seattle  
Phone +1 206 239 5600  
[America@avanade.com](mailto:America@avanade.com)

**South America**

Sao Paulo  
[AvanadeBrasil@avanade.com](mailto:AvanadeBrasil@avanade.com)

**Asia-Pacific**

Australia  
Phone +61 2 9005 5900  
[AsiaPac@avanade.com](mailto:AsiaPac@avanade.com)

**Europe**

London  
Phone +44 0 20 7025 1000  
[Europe@avanade.com](mailto:Europe@avanade.com)

Avanade is the leading provider of innovative digital and cloud services, business solutions and design-led experiences on the Microsoft ecosystem. With 50,000 professionals in 26 countries, we are the power behind the Accenture Microsoft Business Group, helping companies to engage customers, empower employees, optimize operations and transform products, leveraging the Microsoft platform. Majority owned by Accenture, Avanade was founded in 2000 by Accenture LLP and Microsoft Corporation. Learn more at [www.avanade.com](http://www.avanade.com).

