Gain faster, fuller **data insights** for more effective, personalized care

How researchers, clinicians and developers use Healthcare on Azure today

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Rethink your data for rapid insights

More insights with more data

Healthcare clinicians need data for personalized medicine that treats patients based on their unique genetics.

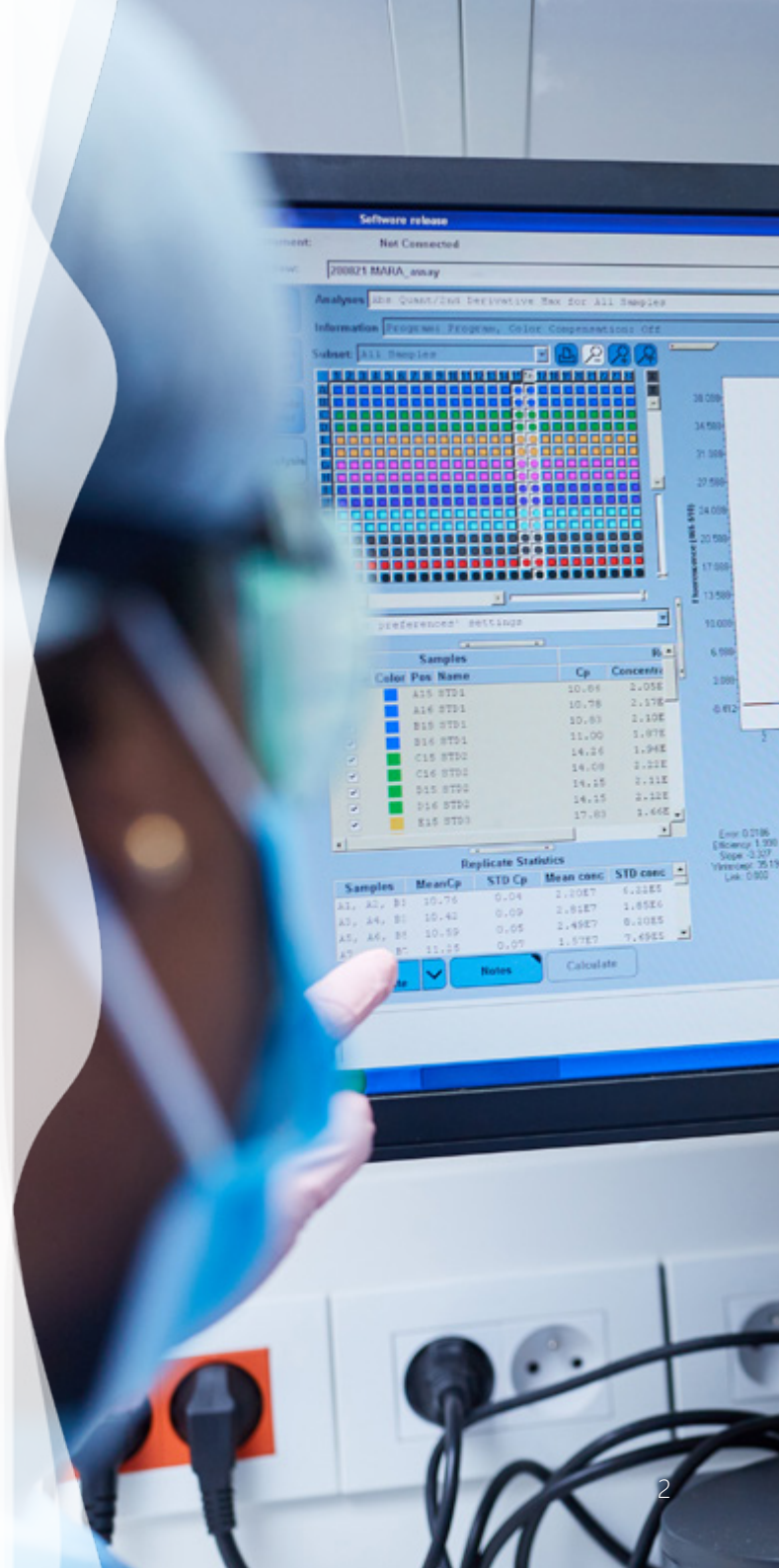
Medical researchers need data to quickly test hypotheses on far vaster databases than they could aggregate on their own.

Scientists and developers specializing in pharmaceuticals need data to produce more and more effective drugs and treatments quickly.

Healthcare on Azure, a modern, cloud-based data platform, and the Azure Cohort Browser, an analytics tool, provide rapid insights into precision health, genomics and proteomic information.

The Browser uses a dataset of 54 million patient electronic medical records (EMR) spanning up to 12 years.

Find 5 use cases in the next few pages showing how this integrated solution is helping leading organizations worldwide.



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USE CASE 1

Researchers' access to healthcare data **slashed from months to minutes**

Health Ministry

What do you do when you have the health data you need, but can't get to it? That was the problem facing researchers in one European country. The government's health data on its citizens was locked away in a variety of registries – birth, death, census, clinical history, lab data and more. Each was controlled by regional data privacy laws and national laws that prohibited their aggregation.

To solve these challenges and grant researchers far faster access to health data, Accenture and Avanade created a health analytics platform based on the Healthcare on Azure cloud platform and the Azure Cohort Browser.

The solution addresses key security and privacy issues with an encryption mechanism that enables researchers to access only the subsets of data for which they are authorized. They can now run queries against anonymized data across multiple registries, with the solution accounting for differences in taxonomy and format.

Research access that formerly took months now can be implemented in mere minutes, enabling far faster response to public health crises and fuller, more insightful treatment of individual cases.

USE CASE 2

New drug insights could be worth **billions of dollars** to pharmaceuticals firms

Academic Medical Center

A large modern medical center – encompassing clinical care, research, and education – made a major investment to move its information technology (IT) systems to the cloud and wanted to justify the investment by demonstrating a rapid return on investment.

One way to do that: Combine the medical center's own data with the Healthcare on Azure platform and give authorized staff access to a comprehensive set of medical records – many with a longitudinal span of up to 12 years – of over 54 million patients.

Moving forward, the medical center will be able to use the power of the combined data sets to more accurately identify common genetic mutations that contribute to two or more diseases.

With the Azure Cohort Browser, they can quickly identify new uses for existing drugs or the expansion of current drugs to new markets without incurring the time and expense of pharmaceutical research and development from scratch.

A comprehensive data set and advanced analytic tools can help save the medical center billions of dollars and uncover new revenue streams, boosting return on investment.

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USE CASE 3

From population health to genomics, **one tool makes analyzing easier**

Regional Healthcare System

A regional healthcare system in the US – with dozens of hospitals, hundreds of clinics, and thousands of doctors – has a variety of needs particularly when it comes to healthcare data analysis. Clinicians wanted to understand the correlations between medical conditions so they can diagnose patients better and make more accurate prognoses.

Unless the healthcare system wants to train its clinicians and researchers as data scientists, it needs a healthcare data analysis tool that speaks their language, not one that requires clinicians and researchers to learn the language of data science.

The Azure Cohort Browser meets this range of needs. Researchers can enter the name of a disease, for example, and find all patients with that condition, and slice and dice the data by age, gender, race, co-morbidities, medicines prescribed and other factors.

They can quickly investigate the full sweep of population health data, individual data, and genomic and proteomic data with a single tool for better population management and improved patient care.

USE CASE 4

Drawing a new roadmap to Alzheimer's progression – and a cure

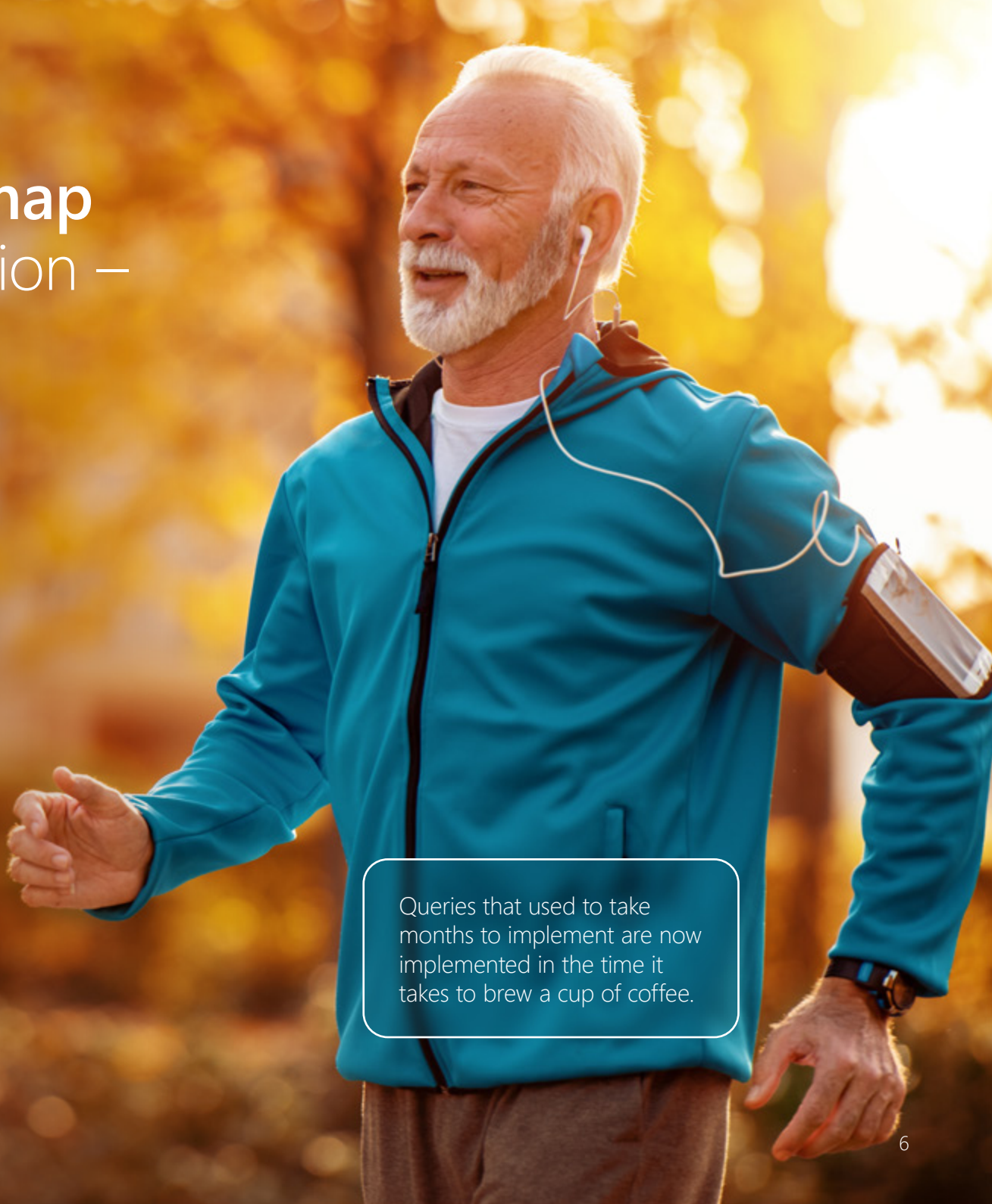
University Hospital

Are you at high risk for Alzheimer's Disease and, if so, what's the likely progression of the disease? What treatment will be most effective for you, based on your unique combination of medical history, genetics, and environmental factors?

A major university-based medical research center in the US is on the cusp of answering these questions, thanks to its adoption of Healthcare on Azure and the Azure Cohort Browser.

The university researchers are using the Azure-based solution to aggregate their own data on 14,000 Alzheimer's patients with the data on 234,000 Alzheimer's patients (among 54 million total patient records) in the Azure solution.

The researchers don't just have more data, they have a broader range of data, which enables a broader range of insights. What's the impact of estrogen replacement therapy on Alzheimer's progression? Of chemotherapy? Of hypertension? The researchers are combining their data on patient histories with Azure's data on genomic links to produce more accurate predictions than have ever been possible before.



Queries that used to take months to implement are now implemented in the time it takes to brew a cup of coffee.

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USE CASE 5

A larger, broader dataset to bridge clinical and research worlds

University Medical Center

Few doctors have a tougher time of it than those dedicated to the diagnosis and treatment of childhood mental health disorders. They're striving to help children who are falling farther behind their cohorts every day. Much of the patient data they need is inadvertently trapped in disparate siloes; some of it isn't captured at all or can't be integrated into the healthcare provider's electronic medical health record.

A university medical center in one European capital is solving this challenge and bridging the worlds of research and clinical care with Healthcare on Azure. Researchers will draw on a vast, GDPR-compliant database that adds 300,000 relevant patient records, including genetic data, to the several hundred records in the university's own database.

Researchers and clinicians envision a care management portal that can become a central, unified interface for tracking patients, making connections between genetic factors using the Azure Cohort Browser to cover more diseases and more patients over more of their lives.

A unique array of strengths delivers **unmatched value**

Health and life sciences organizations as diverse as providers, health plans/payers, pharmaceutical companies, universities and research institutes can put Healthcare on Azure and the Azure Cohort Browser to work today. That's because it's the only data platform and analytics tool in healthcare that combines this array of strengths:

Azure Cohort Browser

A data analytics tool that delivers more effective, efficient, and personalized healthcare, thanks to a filter-and-search solution that yields instantaneous insights into healthcare data, patient cohorts, trends, and treatments.

Genomics

Working in combination with the Cohort Browser, the genomics capability provides unrivalled and rapid analytical insights into data that is simply unavailable anywhere else.

Vast database

You can use Healthcare on Azure to analyze your data, our data, or an integrated set of both. And it bears repeating, the Healthcare on Azure database includes 54 million patient EMRs going back up to 12 years, enabling more accurate and extensive insights.

Collaboration

Researchers and others around the world can now work together on custom datasets that combine their institutional resources and use machine learning and other artificial intelligence tools to glean more insights more quickly, leading to faster joint action.

Interoperability

The security, flexibility, agility and extensibility of Healthcare on Azure is largely based on its scrupulous adherence to industry standards and regulatory requirements, including the HL7 FHIR standard, GDPR and Cloud Security Alliance initiative.

Starting to **rethink** the power of data in healthcare and life sciences?

Please contact us for help.

For more information, visit avanade.com/health

North America
Seattle
Phone +1 206 239 5600
America@avanade.com

South America
Sao Paulo
AvanadeBrasil@avanade.com

Asia-Pacific
Australia
Phone +61 2 9005 5900
AsiaPac@avanade.com

Europe
London
Phone +44 0 20 7025 1000
Europe@avanade.com

About Avanade

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