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Accelerating genomics with **Azure Cohort Browser**

Analytics tool unlocks new data insights

# **Making sense** of healthcare data with the Cohort Browser.

Identifying populations and individuals at risk of serious genetic diseases can help improve disease prevention, early diagnosis and treatment.

But that's easier said than done. Making sense of healthcare data – and identifying the target cohorts and control populations to be analyzed – used to mean sifting through reams of information, much of which was irrelevant and unnecessary in terms of the specific insights needed.

The Cohort Browser, an advanced analytics tool, can change all that for health and life sciences organizations At Avanade, we use the Healthcare on Azure Cohort Browser to help you deliver more effective, efficient and personalized healthcare via intuitive point-and-click searches. Our genomics solution provides you with instant insights into your organization's healthcare data and quickly identifies

trends and treatments. The browser segments populations for analytics and supports clinical, genomic and financial models. Datasets that formerly took days or even weeks to compile can be delivered in seconds.

For one client, we used the Cohort Browser to reduce data acquisition time from 17 months to 17 minutes for researchers.
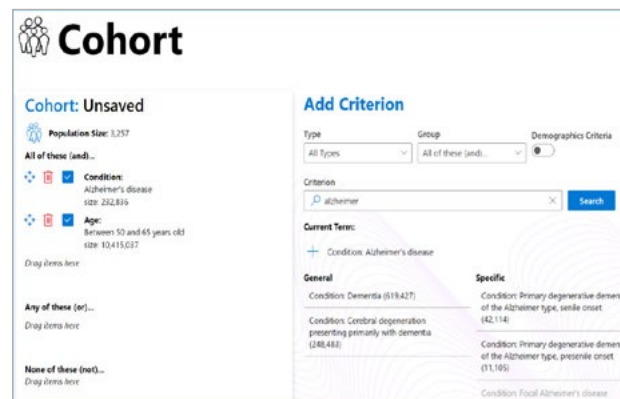
The platform uses hierarchical code systems to identify a diagnosis, lab or medication and then guides the user through the hierarchy to identify codes to include or exclude.

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Azure Cohort Browser

Our genomics solution sits on top of the cohort browser and uses a patient dataset comprised of 54 million patient electronic medical records, both inpatient and ambulatory, and longitudinal data up to 12 years. It's specifically designed to power genomics analytics. The solution provides unrivaled and rapid analytical insights into data that is unavailable anywhere else. You can use it for:

- Hypothesis testing of different combinations of underlying conditions
- Identification of new diseases
- Validation of efficacy of existing medicines – and potential development of new ones
- Identify new markets for pharmaceutical and other life sciences companies
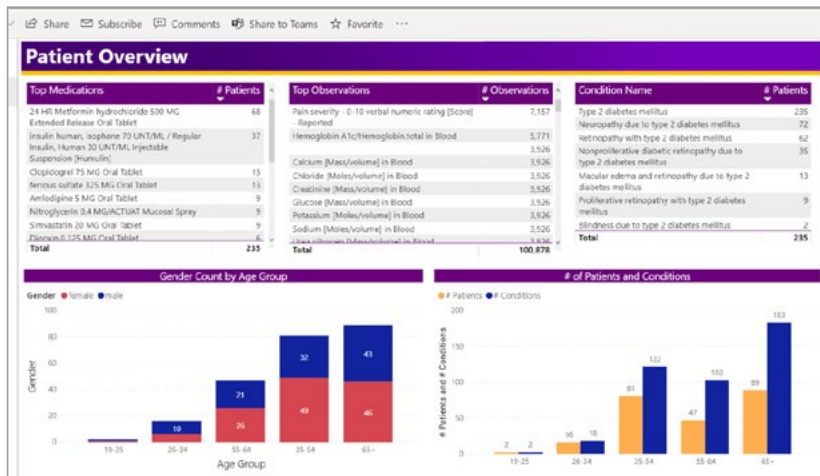

A number of analytics modules are prebuilt to provide an overview of the cohort, rank-ordered comorbidities, lab results, claims, devices, medications, etc. Medical history and lab results can quickly be visualized and explored.

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3
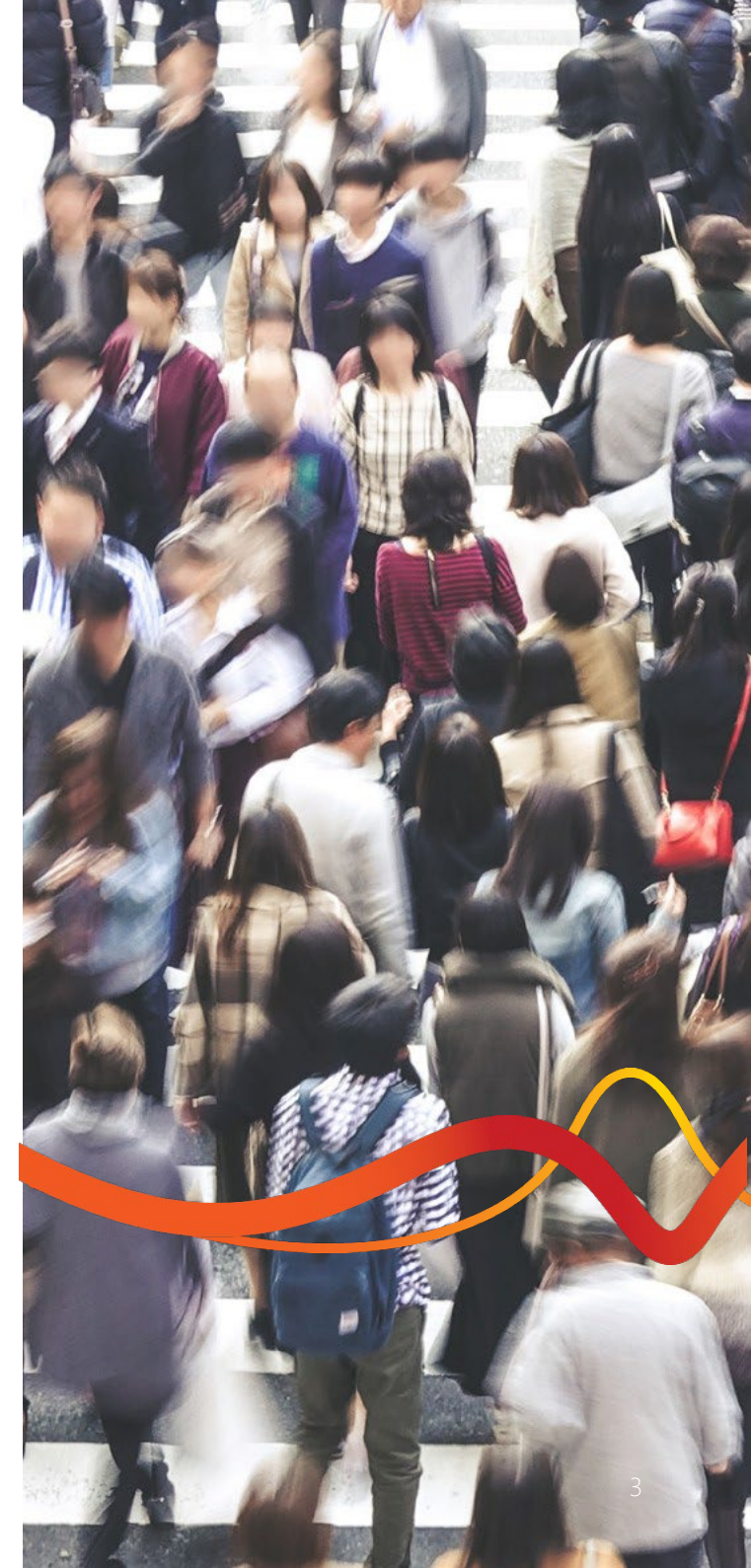
Specifically designed to power genomics analytics

From research to vaccine management and the advancement of precision medicine, our solution accelerates the use of genomics and helps you unlock new data insights. For example, the Cohort Browser enables you to identify populations and individuals at risk for genetic conditions without performing DNA tests.
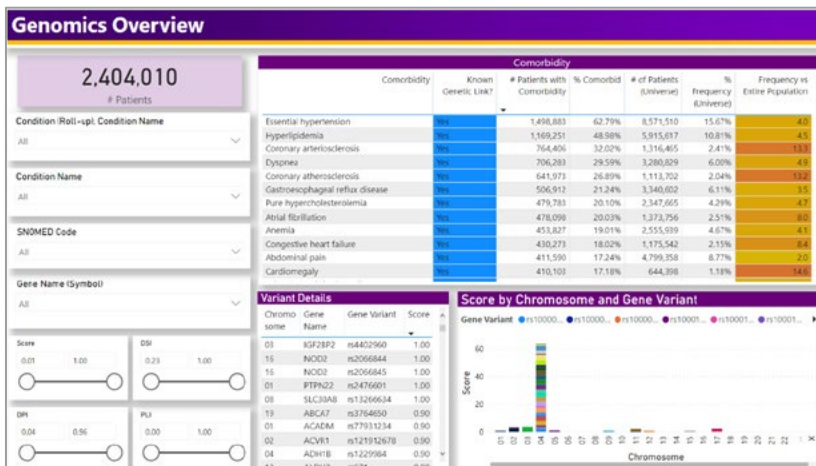
The Genomic Overview provides insights into the comorbidities in a population, enabling care managers and researchers to explore potential genetic linkages of those conditions.

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4

Population health: National and local governments hold invaluable data drawn from responding to health emergencies, performing drug and vaccine safety trials, and investing in the long-term health of their populations. With the Healthcare on Azure platform, government clients can manage, protect and anonymize all available citizen-health data. We make data available securely for both internal employees and external researchers to quickly discover, profile and explore available datasets.

Infectious disease and vaccine management: National, regional and municipal agencies also collect vast amounts of diagnostic test results, immunization records and other lab data that can be used to quickly target high-priority and at-risk populations. We're able to help you analyze and

segment populations based on demographics, risk factors and vaccination status. Health agencies and providers can integrate and create outreach campaigns on a vaccination-management platform.

Precision medicine: With our genomics solution, care providers can develop novel diagnostic and therapeutic solutions for patients who have molecularly complex diseases and who are not responding to existing therapies. We provide physicians and case managers with easy-to-use dashboards to compare patient outcomes and diagnoses, based on phenotypic or genomic linkages.

Understanding patient risk factors enables better insights and opportunities for improved outcomes and new medical discoveries.

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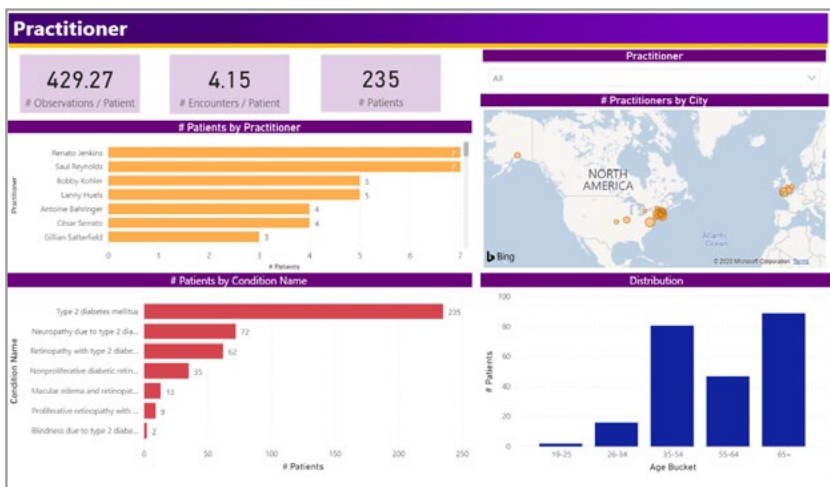
Practitioners and patients can be visualized geographically.

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5

Where can we deliver the **greatest value**?

Health providers/research institutions: Precision medicine and genomics are creating new opportunities in oncology, pharmacology, rare-disease diagnosis and infectious-disease management. Researchers are now looking at data analytics to reduce the time from novel discovery to routine practice. Our platform provides immediate access to one of the largest clinical datasets and tools, enabling you to quickly unify and explore all aspects related to causes and treatments for a specific disease or disease class.

Payers/health insurance companies: Genomic information about currently known common variants provides more accurate risk estimation compared to estimates based only on phenotype and family history alone. Clinicians, health insurance plan providers and other healthcare organizations can identify at-risk populations to better understand risk profiles, improve quality scores, and predict financial and health outcomes.

Life sciences organizations: Life sciences companies such as pharma and biotech companies can use the genomics solution to accelerate drug development, clinical-trial design and evaluation programs. They can also identify additional indications for new and existing pharmaceutical products.

Our solution enables life sciences clients to define and monitor trial populations with unparalleled precision. By integrating biomedical knowledge – drugs, drug resistance, next-generation sequencing, genetic variants and structural biology – they can better understand inclusion and exclusion values against a massive population dataset.

As you can see, the number of ways organizations can apply the use of genomics is rich with opportunities. With our genomics solutions, based on the Healthcare on Azure Cohort Browser, we can help you accelerate and transform genomic data into real-world benefits, from rapid drug discovery and more precise diagnoses to improved population health outcomes.

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Starting to think more about precision medicine and genomics opportunities?

Please [contact us](#).

If you have questions about the Cohort Browser, our genomics solution or the Healthcare on Azure Platform, please reach out to the Avanade Health Team:
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About Avanade

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