



EBOOK:

Next-Gen Business Intelligence for Healthcare and Life Sciences Organizations with AWS





Contents

Next-Gen BI for Healthcare and Life Sciences.....	3
Advantages of AWS for Next-Gen BI for Healthcare and Life Sciences	5
Use cases in Next-Gen BI for Healthcare and Life Sciences on AWS	7
Explore AWS Next-Gen BI services.....	9
Featured APN Partners.....	11
Deloitte ConvergeHEALTH Miner use case: Type 2 diabetes research	12
hc1.com case study: North Memorial Health	13
Getting started.....	14

Next-Gen BI for Healthcare and Life Sciences

Healthcare and Life Sciences organizations are adopting cloud-based workloads at a significant pace. A 2017 HIMSS study found that 65% of Healthcare organizations were using cloud-based services, and nearly 88% of those organizations were utilizing Software-as-a-Service (SaaS) solutions, which have become the preferred deployment method for many clinical application vendors.*

Chief among the desired capabilities of cloud solutions is the ability to find value in data. Services that allow organizations to use data to glean important insights are in great demand. Business Intelligence (BI) tools can help Healthcare and Life Sciences organizations improve patient care and product development – for example, by optimizing patient therapy based on the most recent scientific findings, and reducing waste by eliminating the use of out-of-date laboratory tests. For biopharma and medical device companies, data can be analyzed to improve research and development (R&D) efforts and to optimize operational efficiency across the product innovation continuum.

*Source: 2017 [HIMSS Essentials Brief: Cloud Study](#) published by [HIMSS Analytics](#), a subsidiary of the [Health Information and Management Systems Society](#).

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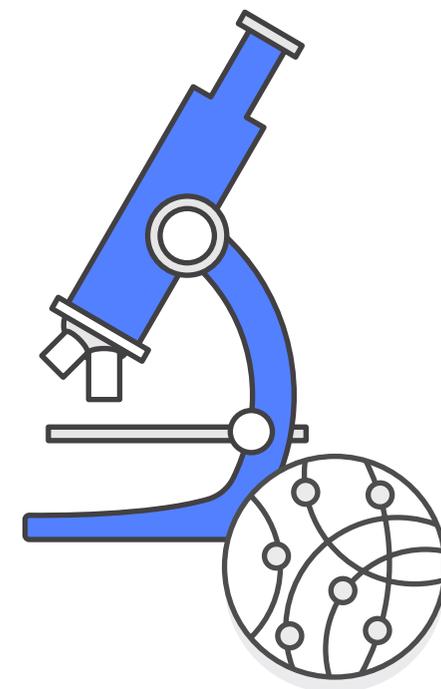
“65% of Healthcare organizations are using cloud-based services today, and chief among the desired capabilities of these solutions is the ability to find value in data.

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Next-Gen BI for Healthcare and Life Sciences (cont.)

The ability to analyze data in real time or near-real time, in streaming, structured, and unstructured formats, and without the need for data experts to write specific queries, is commonly referred to as *Next-Gen BI*. AWS and AWS Partner Network (APN) Partners offer tools and services to help your organization take advantage of the many advances in Next-Gen BI.

This eBook highlights advantages of using AWS to create and maintain cloud-based Next-Gen BI Solutions for Healthcare and Life Sciences organizations. This includes use cases from diverse organizations that have utilized AWS and APN Partners to manage and analyze data, and to discover insights otherwise obscured by the sheer volume of available information. Solutions from APN Partners can help your organization take the next step in building robust processes for making data-driven decisions that improve patient care, organizational processes, and innovative product development efforts.



Advantages of AWS for Next-Gen BI for Healthcare and Life Sciences

AWS provides a global infrastructure for building and maintaining cloud-based tools that can support data-intensive workloads including predictive analytics, machine learning, and artificial intelligence. Deploying on AWS allows organizations to adapt and innovate more quickly. AWS offers customers the ability to store and analyze petabyte-scale data sets, using only the resources they need, and paying only for what they consume. This includes services that allow customers to build solutions that align with all major global compliance frameworks, including the Health Insurance Portability and Accountability Act (HIPAA) for Healthcare organizations and Good Laboratory, Clinical, and Manufacturing Practices (GxP) for Life Sciences.



Advantages of AWS for Next-Gen BI for Healthcare and Life Sciences (cont.)

AWS services enable Healthcare and Life Sciences organizations to build cloud-based Next-Gen BI solutions that can help:



Improve patient care and deliver R&D insights



Inform operational decisions along the continuum from product development through care delivery



Store, move, and track sensitive data securely

AWS Healthcare and Life Sciences Competency Partners bring deep expertise and technical proficiency to help accelerate customer innovation. These companies extend the benefits of AWS by offering consulting and technology solutions that align with the specific needs of Healthcare and Life Sciences organizations.



Use cases in Next-Gen BI for Healthcare and Life Sciences on AWS



APN Partners offer Next-Gen BI solutions that align to regulatory frameworks such as HIPAA to ensure patient data are protected, as well as solutions that support the regulatory and security requirements specific to Life Sciences organizations.



Insights to lead improvements in patient care:

- AWS and APN Partners allow Healthcare and Life Sciences organizations to analyze data from multiple platforms to identify opportunities for improvements in patient care.



Insights to lead improvements in organizational processes:

- AWS and APN Partners offer solutions that can identify inefficient or outdated practices, such as the use of older laboratory tests, and inform data-driven decisions when optimizing organizational processes across healthcare and public safety data sources.



Use cases in Next-Gen BI for Healthcare and Life Sciences on AWS (cont.)



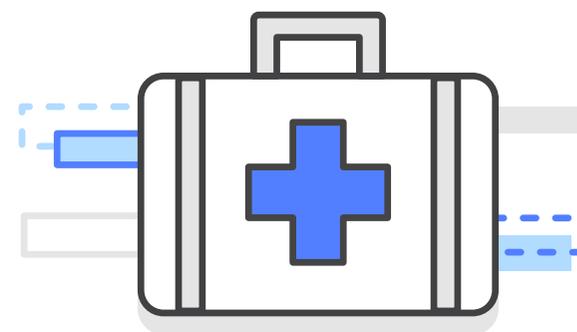
Real-World Evidence (RWE) platforms for Life Sciences product development:

- AWS and APN Partners enable organizations to build large-scale, global applications that can store, process, and analyze streaming, structured, and unstructured data sets. These can be used in predictive analytics and related solutions for industry and academic research, biopharma R&D, and health-related product development.

Explore AWS Next-Gen BI services

AWS offers solutions to help Healthcare and Life Sciences organizations protect, analyze, and gain valuable insights from data through artificial intelligence (AI) and machine learning (ML) technologies. AWS customers and APN Partners are using AWS to create solutions that help Healthcare and Life Sciences organizations use data in exciting new ways: for example, analyzing vital signs in an ICU to identify patients most at risk for infection so that preventive care can be administered earlier, leading to improved outcomes.

Services including Amazon QuickSight for BI, Amazon Macie for automated discovery, classification, and protection of data stored on AWS, and Amazon SageMaker for machine learning, are helping Healthcare and Life Sciences organizations transition to the digital age by making powerful data analysis tools available for inclusion in cloud-based software development.





Explore AWS Next-Gen BI services (cont.)



Amazon QuickSight

For clinical and population health analytics, Amazon QuickSight is a fast, AWS-native BI service that makes it easy for you to build visualizations, perform ad-hoc analysis, and quickly gain insights from data.



Amazon Macie

For organizations dealing with sensitive data, Amazon Macie is a security service powered by machine learning principles that can be used to discover, classify, and protect your data on AWS.



Amazon SageMaker

Amazon SageMaker is a fully-managed service that enables developers and data scientists to quickly and easily build, train, and deploy machine learning models at any scale.



Featured APN Partners

Deloitte.

Deloitte developed their ConvergeHEALTH Miner solution in response to the growing demand for data-driven insights and evidence lifecycle management (ELM) in pharmaceutical R&D. Built on AWS, ConvergeHEALTH Miner is designed to help Life Sciences clients to rapidly realize the promise of Real-World Evidence and big data analytics. The integrated cloud-based analytics, knowledge management, and collaboration platform enables clients to have improved visibility into data assets, which enhances and expedites analysis and insights that shorten development times and uncover new opportunities.

hc1.com

The hc1 healthcare relationship management platform on AWS unlocks answers that solve critical healthcare challenges. The insight offered by unifying transactional, clinical, financial, and other business data at the provider and patient level drives better operations and patient care. Thousands of medical labs, hospitals, and post-acute care networks rely on the business intelligence gleaned from hc1 analytics to solve complex service and relationship problems including readmission reduction, referral management, and test utilization. The hc1 platform is HIPAA-compliant and is built from the ground up to meet the specific needs of Healthcare organizations.



Deloitte.

Deloitte ConvergeHEALTH Miner use case: Type 2 diabetes research

Deloitte ConvergeHEALTH Miner™, built on AWS, enables Life Sciences organizations to harness the full potential of their data and insights. The Miner platform helps accelerate evidence generation and management across the pharmaceutical research and development lifecycle.

One recent use case involved an epidemiological study of specific drug interventions for Type 2 diabetes. The goal of the study was to use both clinical and real-world observations to determine the most effective drug treatments for specific individuals with the disease. The Deloitte ConvergeHEALTH Miner platform aggregated data from multiple sources regarding the efficacy of certain drug interventions at specific points in the disease lifecycle for a population chosen for its unique characteristics, in order to determine the most effective interventions for the disease for this population.

The data gathered inside the platform allowed epidemiologists to select a cohort based on characteristics that could lead to discoveries in how best to treat individuals based on traits including age, gender, disease lifecycle, previous treatments, lifestyle, and a host of real-world observational data. ConvergeHEALTH Miner's interface enabled investigators without expertise in SAS or R Studio to nevertheless perform very sophisticated analyses of data gathered from disparate sources to make meaningful, near-real time observations about patient cohorts that could positively affect patient interventions and outcomes.

Built on AWS, Deloitte ConvergeHEALTH Miner™ enables Life Sciences organizations to harness the full potential of their data and insights.



hc1.com case study: North Memorial Health

North Memorial Health is a health care system based in Minnesota whose locations include a Level 1 Trauma Care hospital. The hospital's laboratory performs more than 1.6 million tests annually across multiple subject areas, including molecular and cytology screenings. North Memorial's leaders, accustomed to an abundance of data, knew that in order to eliminate waste while providing the highest level of patient care, they needed to find more efficient ways to unify and easily access information in order to drive informed decisions.

North Memorial selected hc1 with the goals of replacing data silos with real-time business intelligence and a framework for staff to immediately drive change based on findings and trends. North Memorial used hc1 to consolidate all patient, provider, clinical, and business data in one place, and to identify opportunities for improvement in protocols for ordering lab tests.

Using real-time insight gleaned from hc1, today North Memorial is able to ensure they are delivering the right tests to the right patients at the right time. They can instantly assess overall utilization and test reimbursement patterns and benchmarks via up-to-the moment dashboards. By using hc1 as a central place for North Memorial staff to interact, feedback can be delivered instantly to physicians regarding test-ordering practices, resulting in efficiencies that improve patient care and save money.



Using hc1, our team has ultimately achieved stronger retention and increased growth by creating a more transparent culture.



Michele Koester

Core Lab Operations Supervisor
North Memorial Health



Getting started

For more information on Next-Gen BI for Healthcare and Life Sciences organizations with AWS, visit [Next-Gen BI for Healthcare and Life Sciences on AWS](#).

To learn more about AWS for Healthcare and Life Sciences, visit [Cloud Computing in Healthcare on AWS](#).

Learn more about [AWS](#).



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