snowflake®

7 WAYS HEALTHCARE AND LIFE SCIENCES ORGANIZATIONS DRIVE BETTER PATIENT AND BUSINESS OUTCOMES WITH THE DATA CLOUD

HEALTHCARE & LIFE SCIENCES SUCCESS GUIDE

TABLE OF CONTENTS

CREATING A
NEW NORMAL

The COVID-19 pandemic has put healthcare and life sciences in the spotlight. The industry had to completely transform almost instantly, shifting patient care and business to online platforms. The importance of building a strong healthcare infrastructure and investing in life sciences for public health was brought home to countries around the world. Today, the industry is using lessons learned from the pandemic to create a new normal that is more innovative, competitive, and resilient. At the same time, healthcare and life sciences companies face market pressures of increasing costs and lower returns. **In 2020**, U.S. healthcare spending reached $4.1 trillion, and the prices for medical goods and services are projected to grow by an average of 2.4% annually by 2028.

While nobody can predict the future of healthcare and life sciences, what's certain is that healthcare providers, healthcare payers, and life sciences organizations have a unique opportunity to meet current challenges and future-proof their business. Data is a crucial tool in forging ahead. Data can help organizations unlock insights that will help with every aspect of the industry, from making better clinical decisions to developing better treatments for patients. But to do so, organizations must be able to collect, analyze, and collaborate on data effectively and efficiently.

Healthcare and life sciences leaders are adopting the cloud to gain modern data capabilities. In doing so, they are easing barriers to collaboration, speeding innovation, and making smarter, data-driven healthcare decisions.

HEALTHCARE AND LIFE SCIENCES, IT'S TIME TO BECOME TRULY DATA-DRIVEN

At Snowflake, we're leading the way in helping healthcare providers, healthcare payers, and life sciences companies mobilize data to drive better patient and business outcomes. With the Snowflake Healthcare & Life Sciences Data Cloud, organizations can drive personalization and optimize population health management. They can accelerate innovation, modernize their operations and cut costs, and deliver value-based healthcare more efficiently. And they can make data-driven decisions with insights from external data sets on Snowflake Marketplace. Snowflake enables hundreds of healthcare and life sciences organizations to achieve these benefits and more to get ahead of the competition.

This ebook explores some of the innovative and exciting ways our healthcare and life sciences customers are already unlocking the value of data to build a healthier future with Snowflake, the world's data network.

#1 DRIVE PATIENT CENTRICITY AND PERSONALIZATION

THE CHALLENGE

Healthcare and life sciences organizations are under pressure to deliver personalized patient care. **According to McKinsey**, "In the era of COVID-19, all healthcare stakeholders may soon be expected to provide care to consumers that is more personalized in order to increase their patients' rates of engagement and satisfaction." Figuring out how to care for each patient involves obtaining a 360-degree view of patients by capturing disparate data from medical records, insurance and pharmacy claims, wearable health devices, and communications with drug makers, health providers, and payers. But due to data latency caused by disparate legacy systems, data sets are not always accurate, consistent, or relevant at the time they are needed for analysis. Also, organizations tend to silo sensitive data and are reluctant to share it with other providers, payers, and life sciences companies given their obligations to comply with HIPAA and other data security regulations.

SNOWFLAKE'S SOLUTION

Snowflake's Healthcare & Life Sciences Data Cloud breaks down silos that hamper data sharing and analysis while maintaining strict security standards for patient data. With unconstrained internal data as well as a wealth of external data from partners and Snowflake Marketplace, healthcare providers and payers are able to use historical records, social and environmental data, and even social media feeds to provide better assessments and predictions about patient health. Life sciences organizations can obtain valuable external data that can lead to better, faster clinical trials and treatments.

> " **Our role in the transformation of healthcare is to leverage digital-first, data-driven insights to serve our members at their time of need. The Snowflake Data Cloud helped us to translate our data into meaningful, actionable insights at a much faster scale.**"
>
> **—ASHOK CHENNURU,**
> Chief Data and Analytics Officer, Anthem

Anthem serves more than 110 million people through its affiliated companies, including approximately 43 million members within its own family of health plans. The company has pioneered a "whole-person" approach to healthcare in which it considers multiple factors—including social drivers of health—that influence its members' well being. But leveraging all of the available data to better serve patients and improve patient health outcomes was a challenge. Legacy systems were on-premises, making scalability difficult and creating significant delays in getting important patient insights. Using Snowflake's Data Cloud, Anthem can assess an individual's condition or predict future health needs, drawing on a wide range of data, including historical, social, and environmental information. This can include prior insurance claims, electronic medical records, and hospital visits, as well as biometrics and sensor data. Anthem is also using the Data Cloud for machine learning and artificial intelligence workloads.

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#2 DELIVER VALUE-BASED HEALTHCARE

THE CHALLENGE

Value-based healthcare payment models are designed to reduce spending while improving outcomes by focusing on results instead of services. And they are becoming more common. **According to HCPLAN**, 40.9% of U.S. healthcare payments, representing approximately 238.8 million Americans and over 80% of the covered population, stemmed from value-based reimbursement models. But to be successful in improving patient outcomes while simultaneously cutting costs, healthcare providers and payers need to analyze data from a variety of sources, including medical records, insurance and pharmacy claims, wearable health devices, and communications with other healthcare organizations. When disparate systems attempt to connect, there is a delay in sharing and data sets can become obsolete. Also, the sensitivity of the data contributes to siloed approaches to storage and a reluctance or inability to share data due to data security regulations and requirements.

SNOWFLAKE'S SOLUTION

The Healthcare & Life Sciences Data Cloud enables providers, payers, and life sciences companies to share and integrate data in a flexible and scalable way through secure, seamless data sharing capabilities and Snowflake Marketplace. By breaking down internal and external silos of data from electronic health record (EHR) systems, research institutions, government entities, and extended health ecosystem partners, healthcare providers and payers can drive patient/member-centric care models with the help of a single source of truth that securely unites and protects all health data. Life sciences companies can create a 360-degree view of the patient journey, from diagnosis to recovery, to better operate within value-based care models.

> **We have the analytics to prove that if we provide better outcomes for at-risk populations, total cost for healthcare will drop. It's a win for patients and for the companies."**
>
> **—PRISMA HEALTH**

#3 EXPEDITE DRUG COMMERCIALIZATION

THE CHALLENGE

Commercializing a drug involves a costly and lengthy process that includes manufacturing, marketing, sales, and distribution. A **2020 study** said that the estimated cost per product was $985 million, and **another recent study** said it takes more than 10 years to bring a drug to market. There's no lack of information available to help life sciences companies through the process—including prescription claims data, market research, pharmacy data, physician surveys, and prior drug sales data. But data silos and a lack of analytic capabilities hinder companies from wrangling and leveraging this data to speed the process.

SNOWFLAKE'S SOLUTION

The Healthcare & Life Sciences Data Cloud can help life sciences organizations accelerate each step of drug commercialization by easing the collection, analysis, and sharing of data. They can evaluate their own supply chains with end-to-end transparency that helps identify vulnerabilities and decrease costly disruptions. They can identify and reach ideal healthcare provider customers using third-party physician credentialing, physician-based market share, and public health data from Snowflake Marketplace. And they can apply advanced analytics such as AI and machine learning to manufacturing and distribution to reduce time to market as well as costs.

#4 SHARE DATA EASILY AND SECURELY

THE CHALLENGE

Data collaboration between organizations has been shown to improve health outcomes and advance innovation. For example, a 2021 program that coordinated healthcare for older adults to improve health outcomes was associated with **40% fewer inpatient hospitalizations**. However, collaborating easily and securely has evaded the industry. Information sharing continues to be challenging in the face of rigid data privacy regulations, and disparate systems and data silos hinder joint partnerships that could result in wins for patients, business, and society at large.

SNOWFLAKE'S SOLUTION

The Healthcare & Life Sciences Data Cloud enables secure data collaboration within and across the healthcare and life sciences ecosystem, allowing organizations to advance medical research and innovation. Snowflake's secure data sharing capabilities enable organizations to securely exchange critical data sets in a timely manner, eliminating the need for traditional data sharing methods requiring data copying and movement. Snowflake Marketplace offers access to live data from a variety of industry providers who also offer applications powered by Snowflake. Snowflake customers can drive observational and longitudinal research forward and enable collaboration across academic, commercial, and nonprofit participants.

CUSTOMER SPOTLIGHT:

IQVIA

| HEADQUARTERS | Danbury, Connecticut |
| INDUSTRY | Healthcare |

IQVIA is a leading global provider of advanced analytics, technology solutions, and contract research services to the life sciences industry. IQVIA is the first Snowflake partner to build commercial products for healthcare at scale. Its products drive improved business measurement, data acquisition and sharing, data management, insight generation, and data analytics. Its solutions make possible seamless data sharing and analytics with integrated architecture, improve speed to market for IQVIA data, and accelerate time to usage and time to value on Snowflake.

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#5 OPTIMIZE POPULATION HEALTH MANAGEMENT

THE CHALLENGE

According to the World Health Organization, numerous studies suggest that social determinants of health (SDOH)—including income, education, housing, and job and food security—account for up to **55% of health outcomes**. Healthcare organizations that understand SDOH data can deliver better population health management, improving clinical health outcomes of defined groups of patients with more-personalized care and support services. But accessing SDOH data is difficult for healthcare organizations that are often hampered by data silos and strict data security regulations.

SNOWFLAKE'S SOLUTION

With the Data Cloud and Snowflake Marketplace, organizations can use predictive models to detect important trends—for example, consumers who live alone in a food desert, an area with poor access to healthy food, are more prone to diabetes. Consumer credit rating agencies are providing live, secure access to patient debt levels, and other financial insights, which can be correlated to patient lifestyle habits and healthcare outcomes. And next-generation patient health data aggregators can provide live, direct access to SDOH data from hundreds of millions of consumers to predict drug adherence, hospital visitations, and other patient events.

> " Snowflake's Healthcare & Life Sciences Data Cloud is allowing us to manage, connect, and share large amounts of data—without the overhead—with our members, our providers, our vendors, and our suppliers. Basically, any data source from any organization."
>
> **—CHRIS CROOK,**
> CIO, Spectrum

CUSTOMER SPOTLIGHT:

Spectrum Health

HEADQUARTERS	Grand Rapids, Michigan
INDUSTRY	Healthcare

Spectrum Health is a not-for-profit, integrated, managed care healthcare organization that services 11 counties in West Michigan. Legacy data warehouse and analytics sandbox technologies made it difficult to create a patient SDOH tool that could effectively and efficiently analyze all data types and was accessible to research partners. Spectrum used the Healthcare & Life Sciences Data Cloud as well as Snowflake Marketplace to identify patients and members who were likely to have a negative outcome based on their nonclinical, socioeconomic situation. With this broader view of patients and members, Spectrum was able to produce a risk score that can now be leveraged by the member's health plan and the patient's provider to ensure that the best healthcare services are provided and will ultimately promote the best outcome.

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#6 ACCELERATE DRUG DISCOVERY AND DEVELOPMENT

NOVARTIS

HEADQUARTERS Basel, Switzerland
INDUSTRY Pharmaceuticals

THE CHALLENGE

In 2021, the 15 largest pharmaceutical companies globally invested a record **$133 billion in R&D expenditure**, an increase of 44% since 2016. While the pandemic highlighted the need for drug discovery and development, pharmaceutical companies are **facing higher prices and limited availability of raw materials**, slowing down the drug pipeline. Additionally, some are facing changing regulations that could lower drug prices, significantly changing revenue streams. The industry needs to address these trends by increasing supply chain transparency and streamlining operations. But data silos and legacy systems hamper the seamless flow of information that could help achieve these goals. The industry also must follow strict data privacy and security regulations that have traditionally limited data sharing.

SNOWFLAKE'S SOLUTION

The Healthcare & Life Sciences Data Cloud offers a secure, seamless way for life sciences companies to collect, analyze, and share information across the entire value chain to accelerate drug discovery and development. Snowflake helps life sciences companies optimize how research and business functions work cross-functionally and with their extended business ecosystem. It also enables companies to comply with industry and geographical privacy regulations while taking advantage of advanced analytics that propel innovation forward. Because Snowflake helps ensure the privacy and security of proprietary and sensitive data while democratizing access, life sciences companies can accelerate value delivery by collecting, analyzing, and sharing real-world data (RWD). This enables leveraging data mining and advanced analytics to optimize therapy discovery and development.

Novartis, a leading global medicines company, uses innovative science and digital technologies to create transformative treatments and products for nearly 800 million people around the world. Novartis had a wide spectrum of types of data and data management systems that were not standardized, interoperable, or scalable. It also has to abide by strict industry regulations on data privacy and governance. As a result, it could take up to six months to get insights from data. Now, with the Healthcare & Life Sciences Data Cloud, Novartis can achieve interoperability across multitudes of vendors, systems, and data sources. The Healthcare & Life Sciences Data Cloud has helped Novartis empower innovation and improve effectiveness for analytics and data science teams by removing data bottlenecks and barriers to insight, and enabled a global data strategy by leveraging multi-cloud capabilities.

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#7 MODERNIZE OPERATIONS AND SUPPLY CHAIN

THE CHALLENGE

Faced with declining margins, healthcare organizations must decrease operational expenses to reduce the overall cost of care. This requires visibility into every facet of operations and the supply chain, from physical-site overheads to logistical expenses. Meanwhile, life sciences organizations must offset the **higher cost of raw materials** by cutting operational costs and driving productivity in key functional areas such as manufacturing and quality assurance. But gaining insight into operational efficiency and the value chain is difficult with data silos and outdated data systems.

SNOWFLAKE'S SOLUTION

The Healthcare & Life Sciences Data Cloud provides visibility into operations throughout the business, from administrative and financial management to clinical practice and clinical trials. Data insights can help organizations decrease operational inefficiencies, enabling them to be more responsive and adaptable to changing market conditions and patient demands. A modern data foundation that fosters data access, analytics, and machine learning is key to optimizing operational efficiency. Such efficiency can lead to higher productivity and faster product time to market.

CUSTOMER SPOTLIGHT:

SIEMENS Healthineers

HEADQUARTERS	Healthcare
INDUSTRY	Erlangen, Germany

Siemens Healthineers is a German medical device company. Siemens needed to collect and analyze data to improve its business processes, but it had difficulty integrating data from its different business areas, functions, and regions to gain insights. Snowflake on Microsoft Azure enabled Siemens Healthineers IT to design its data architecture with cross-regional access and easy, centralized management. The company leveraged Snowflake technology to establish a data mesh of globally distributed data lakes that upgraded performance and enhanced functionality for worldwide data sharing and distribution. Now, Siemens Healthineers can ingest data from various departments as well as from external sources. Ultimately, Snowflake helped Siemens optimize business processes globally and reduce operational costs.

Learn More

UNLOCK THE POWER OF
HEALTHCARE AND LIFE SCIENCES DATA

Healthcare and life sciences organizations are searching for new ways to adapt to the conditions of an uncertain and highly competitive and regulated landscape. With the Healthcare & Life Sciences Data Cloud, organizations now have the depth of insight, analytical power, and collaborative tools needed to move with agility while delivering the best results for patients. With the advantage of Snowflake's powerful core platform capabilities, healthcare and life sciences organizations can focus on advancing medical innovation and delivering exceptional health outcomes while maintaining strict levels of data security, governance, and compliance.

To learn how Snowflake's expanding, interconnected network can help realize the potential of secure, borderless data access for your organization, visit the **Healthcare & Life Sciences Data Cloud**.

ABOUT SNOWFLAKE

Snowflake delivers the Data Cloud—a global network where thousands of organizations mobilize data with near-unlimited scale, concurrency, and performance. Inside the Data Cloud, organizations unite their siloed data, easily discover and securely share governed data, and execute diverse analytic workloads. Wherever data or users live, Snowflake delivers a single and seamless experience across multiple public clouds. Join Snowflake customers, partners, and data providers already taking their businesses to new frontiers in the Data Cloud.

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