# The journey to health innovation

## Power personalized health with an end-to-end data strategy

Today, patients expect flexible and convenient access to healthcare. Pharmaceutical companies need more agile ways to discover, manufacture, and commercialize therapeutics in a highly regulated environment. And genomics organizations need to process petabytes of data to inform more personalized therapeutic development and patient care.

From innovative tech startups to global enterprises, health organizations are discovering new opportunities to streamline **innovation, control costs**, and **optimize resources** by creating an end-to-end health data strategy in the cloud.

## Moving to the cloud can help healthcare, life sciences, and genomics organizations:


# Four steps to innovation with AWS

From where you are to where you need to be, Amazon Web Services (AWS) gets you there

## STEP 1 MIGRATE

### Take the first step

Migration is the cornerstone of the digital foundation needed for an end-to-end health data strategy. It starts with migrating on-premises systems, applications, and clinical and scientific data to AWS. AWS provides the industry-specific capabilities you need for a successful cloud migration, with support resources such as the **AWS Migration Acceleration Program** (MAP), **Migration Evaluator**, and **AWS Professional Services** for healthcare and life sciences.

**Jump-start your transformation with AWS Cloud training ›**

AWS healthcare and life sciences experts will get you cloud-fluent quickly.

### Leading organizations are realizing value by migrating to AWS

LIFE SCIENCES

**$60M+** in savings

By migrating to AWS, **Gilead** estimates that it will save more than $60 million within years and accelerate time to market.

Gilead Creating Possible

HEALTHCARE

**$25M+** in savings

**eHealth NSW** moved 30% of its mission-critical workloads to AWS Cloud infrastructure, saving more than $25 million in its on-premises hardware investment.

eHealth NSW | Health

GENOMICS

**99%** reduction in time spent

**Genomics England** moved 50 petabytes of data to the cloud for its 100,000 Genomes Project, resulting in a 99% reduction in time spent on common tasks, more seamless collaboration, and the ability to combine different data modalities.

Genomics England

**Leading healthcare providers reported a 44% reduction in IT costs by moving to the cloud**

## STEP 2 PROTECT

### Cover your bases

Working with highly regulated health data requires a robust approach to security, privacy and compliance, and recovery. AWS provides access to more than 140 HIPAA-eligible services and support for security standards and compliance certifications, including GDPR, HITRUST, ENS High, GxP, HDS, C5, and FedRAMP. And AWS solutions help you minimize downtime and data loss by providing fast, reliable recovery of physical, virtual, and cloud-based servers in the event of IT disruptions.

HEALTHCARE

**Improving RTO by 97%**

**CalvertHealth** improved disaster recovery time by 97% with AWS.

CalvertHealth.

LIFE SCIENCES

**Streamlining industry compliance**

With AWS, **Lyell** reduced the time to validate GxP compliance from 2–3 weeks to only minutes while reducing manual errors and deploying validation tests automatically.

Lyell

GENOMICS

**Ensuring data security in the cloud**

**Illumina** counts on the **AWS Shared Responsibility Model** to ensure its underlying cloud infrastructure maintains enterprise-level security and compliance. And with the AWS Global Infrastructure, AWS helps its customers maintain data sovereignty.

illumina

**Protect your data with AWS compliance resources**

Healthcare compliance ›

Life Sciences compliance ›

## STEP 3 UNIFY

### Fulfill the promise of data

Break down the siloes that hinder care delivery, slow innovations, and limit operational efficiency by integrating disparate data to produce faster, better insights. Purpose-built services such as **Amazon HealthLake** provide holistic views of patients to drive insights and speed diagnoses, and **Amazon Omics** generates insights from genomics and other biological data to help you create more personalized therapeutics and care plans.

HEALTHCARE

**Integrating data to drive precision therapeutics**

**Philips HealthSuite Platform** powered by AWS makes it easier for oncology teams to deliver personalized therapy by integrating genomic data with imaging, digital pathology, and clinical data.

PHILIPS

LIFE SCIENCES

**Visibility across the value chain**

**Novo Nordisk** built an enterprise data and analytics solution with AWS, combining data from foundational research to manufacturing to patient-facing data-driven applications.

NOVO NORDISK

GENOMICS

**Indexing 26B occurrences of 215M unique genomic variants**

**Children's Hospital of Philadelphia** (CHOP) went from zero data to managing petabytes of genomic data within a year using AWS.

Children's Hospital of Philadelphia

**Turn your data into your most powerful asset**

With **AWS Data Exchange**, you can easily find, subscribe to, and use thousands of healthcare and life sciences datasets and APIs from a single interface to generate evidence, identify trends, accelerate research, and optimize operations.

## STEP 4 INNOVATE

### Create the future of personalized health

Innovation is a continuous mindset that depends on a secure, compliant, and end-to-end data strategy. AWS helps you get the most out of your data with a comprehensive suite of analytics and machine learning (ML) offerings that enable you to speed discovery, customize treatment plans, identify care gaps, and improve clinician, researcher, and patient experiences.

HEALTHCARE

**Bringing lifesaving AI advancements to medical imaging**

**Aidoc** uses artificial intelligence (AI) and image recognition tools from AWS to analyze CT scans to flag acute abnormalities, prioritize life-threatening cases, and expedite patient care.

aidoc

LIFE SCIENCES

**150%** faster time to insights

Using AWS ML solutions, including Amazon SageMaker for large datasets, **AstraZeneca** accelerates time to insights by automating previously manual processes, gaining speed, efficiency, and simplicity.

AstraZeneca

GENOMICS

**Bridging the precision medicine gap**

RNA-sequencing innovator **Cofactor Genomics** uses a predictive immune modeling technology that leverages AWS ML, decentralizing biomarker discovery and enabling cross-functional collaboration to better match patients to the treatments they need.

COFACTOR genomics

## Take the first step

Start your journey to health innovation today with AWS, the trusted leader in cloud solutions for healthcare and life sciences

To learn more about AWS for Health, visit **www.aws.amazon.com/health**