Learning Days

State, Local, Education and Health

# AWS for Healthcare

## Solutions for healthcare providers, payors, and health technology companies

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# AWS for Healthcare mission:

To enable access and delivery of **person-centered healthcare,** drive **improved outcomes** at a lower cost, and **accelerate the digitization and utilization** of healthcare data

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# Amazon and healthcare

- Amazon Pharmacy
- Amazon One Medical
- Amazon Clinic

**30** hospital solution categories

**135** HIPAA-eligible services

**AWS provides underlying services benefiting Health Information Technology (HIT) customers for academic medicine**

### Healthcare focus

Healthcare is **1 of 2** industry focus programs at AWS

### Healthcare team capability

- Board certified clinician informaticists
- Former HIT executives
- Former chief medical officers
- Former HIT engineers

### EHR capability

- Native support for Epic customers up to 65M GRefs/s
- Heavy investments in compute capacity and instance types
- Cost savings for customers from new generation of AWS compute capacity

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# We are accomplishing this mission by

**Accelerating healthcare transformation**

**Fueling innovation and unlocking insights**

**Enabling seamless care delivery**

**Enhance national and regional strategies**

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# Why healthcare in the cloud?

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# The need for personalized healthcare

For healthcare organizations, the challenge of providing patient-centered care amid ever-increasing costs has never been greater

- Inefficiencies are driving up operational expenses
- Lack of personalized care can lead to unnecessary or ineffective treatments
- Clinicians are experiencing burnout
- Patients are expecting a more personal healthcare consumer experience
- And, keeping health information secure and private adds yet another burden

**But while the challenges are great, so are the opportunities**

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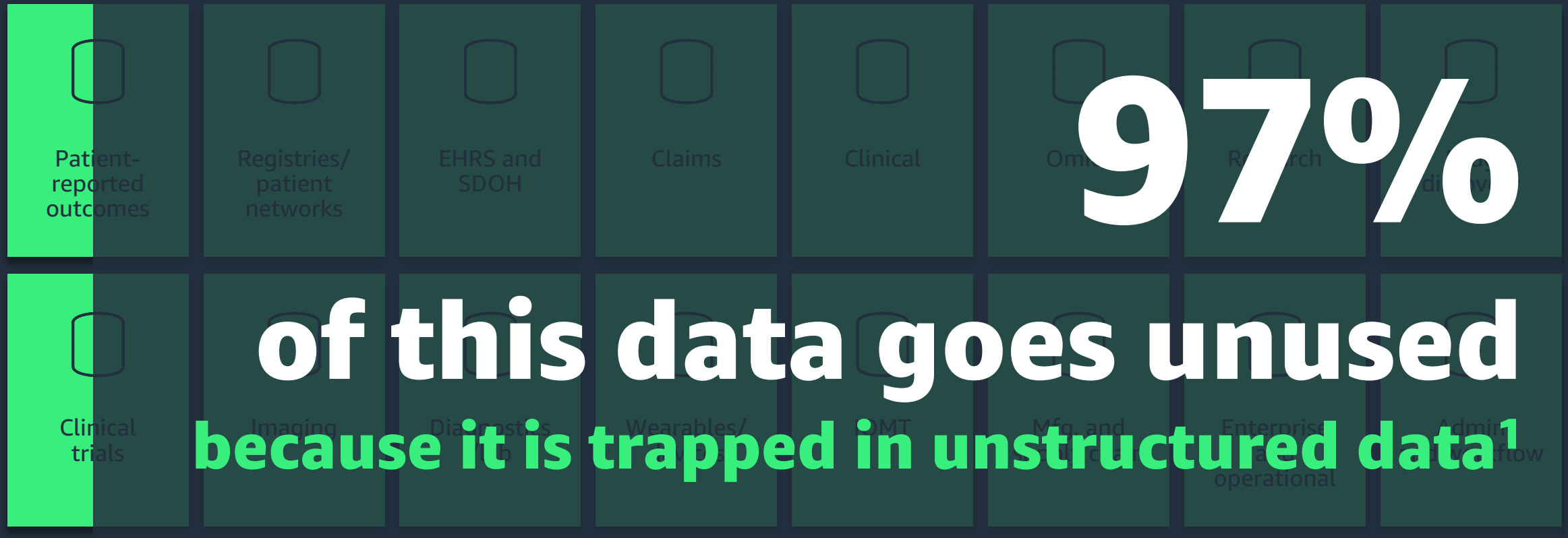
# 50 petabytes of healthcare and life sciences data generated annually by hospitals




**97%**

**of this data goes unused**

**because it is trapped in unstructured data[1]**

1: https://www.weforum.org/agenda/2019/12/four-ways-data-is-improving-healthcare

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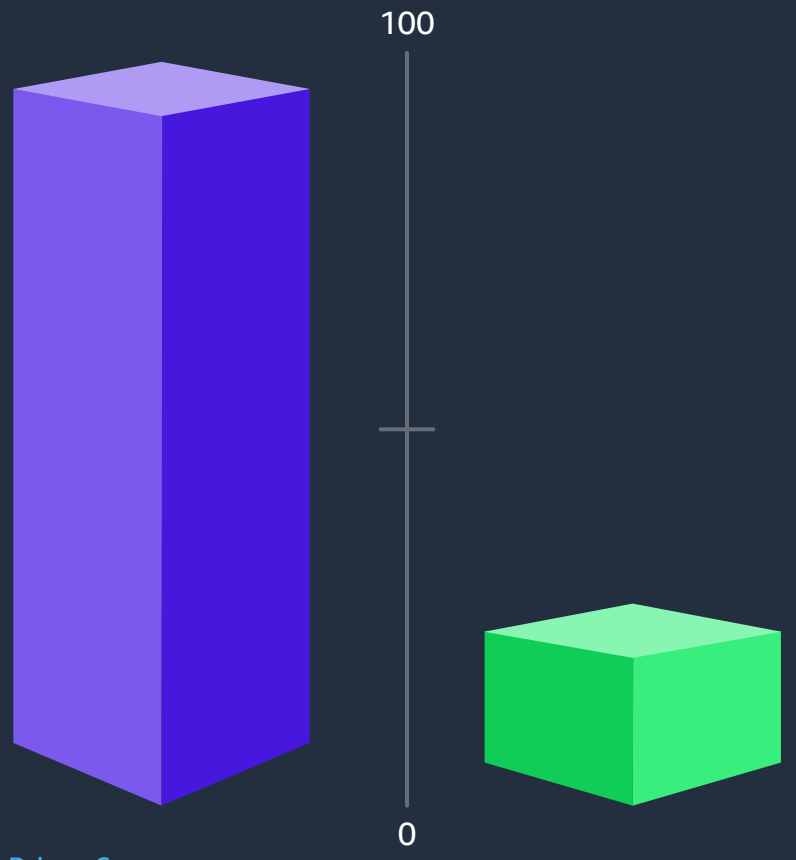
# Data is a strategic asset for healthcare organizations

COMPANIES OF ALL SIZES REALIZE THE IMPORTANCE OF DATA IN TODAY'S TECHNOLOGICAL LANDSCAPE

**99%**

of businesses want to be data driven




**26.5%**

of businesses have been successful

Harvard Business Review, Why Is It So Hard to Become a Data-Driven Company

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# What we're hearing from healthcare executives

My team needs to own datasets, pipelines, and repositories that are isolated from other teams

I have to turn our organizational data into an asset

Current data architecture is complex and monolithic and slow to change

We spend more time on ingesting and processing data than translating insights into better business decisions

How do we meet regional sovereignty rules and regulatory compliance while exchanging data?

I wish to focus on innovating with data, not on managing, maintaining, and administering it

Need to create a model to support sharing from both producers and consumers of data

Data quality varies among providers. Data regulations vary globally

We need fit for purpose data sets. Getting the right data seems impossible

It is all siloed! Searching and analyzing data is difficult

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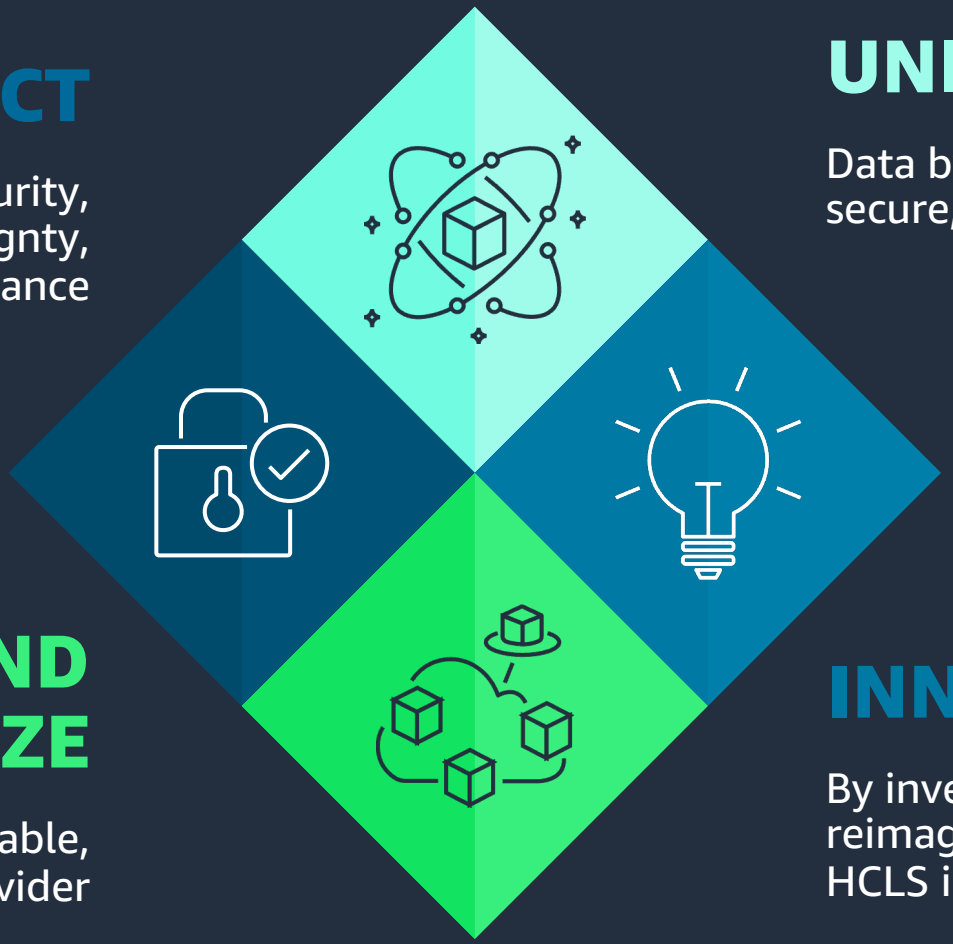
# The key to success: A comprehensive data strategy

## PROTECT

Ensure data security, privacy, data sovereignty, and regulatory compliance



## UNIFY

Data by breaking down silos and with secure, well-governed data access

## MIGRATE AND MODERNIZE

Data infrastructure with a scalable, trusted, and secure cloud provider

## INNOVATE

By inventing new experiences and reimagining existing processes with HCLS industry-specific services

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# Amazon Web Services: Helping to address key personalized healthcare trends

## Modernizing the care infrastructure

## Improving and accelerating diagnoses

## Managing population health

## Addressing gaps in care and health inequities

## Leveraging the potential of generative AI

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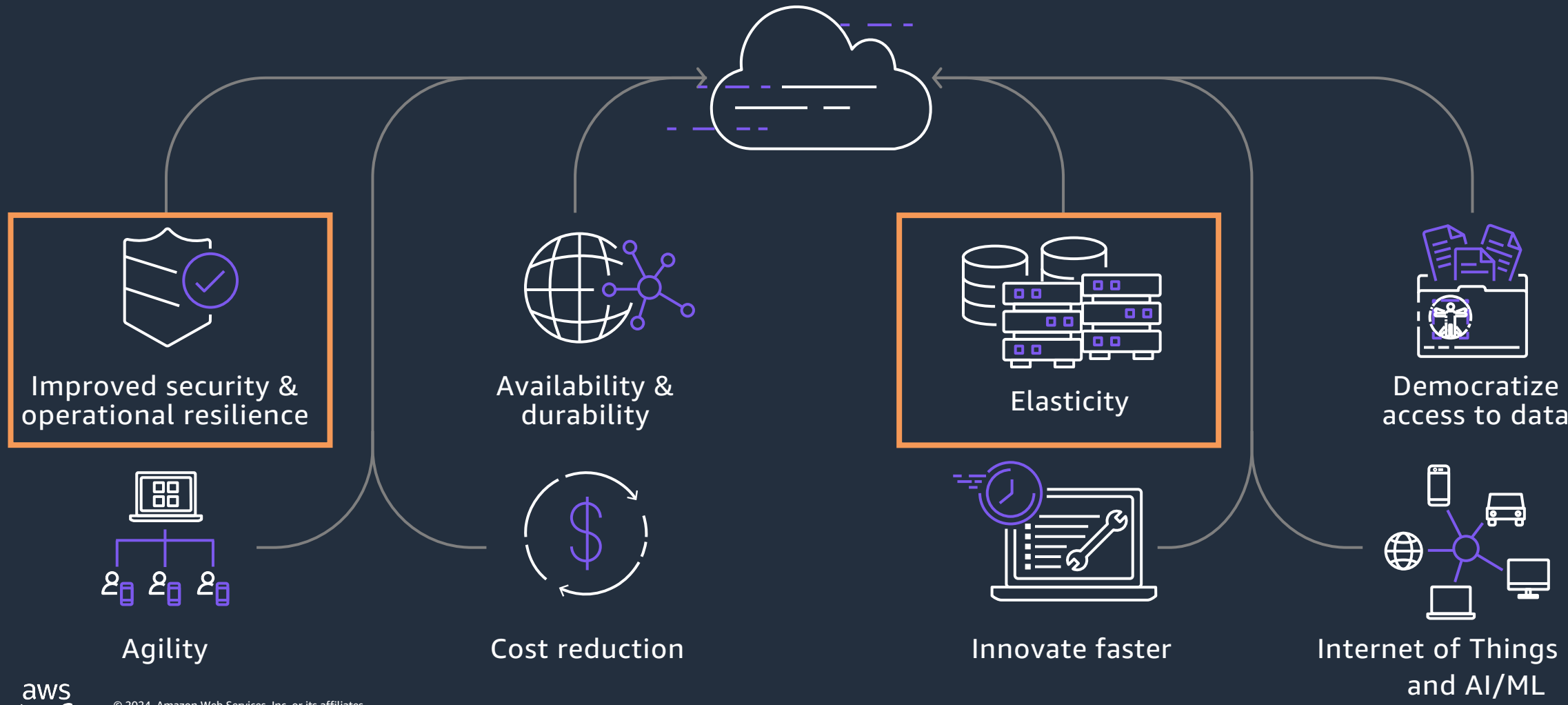
# Healthcare in the AWS Cloud

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# What that means

Performance + Resilience + Security = Innovation

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# Why AWS?

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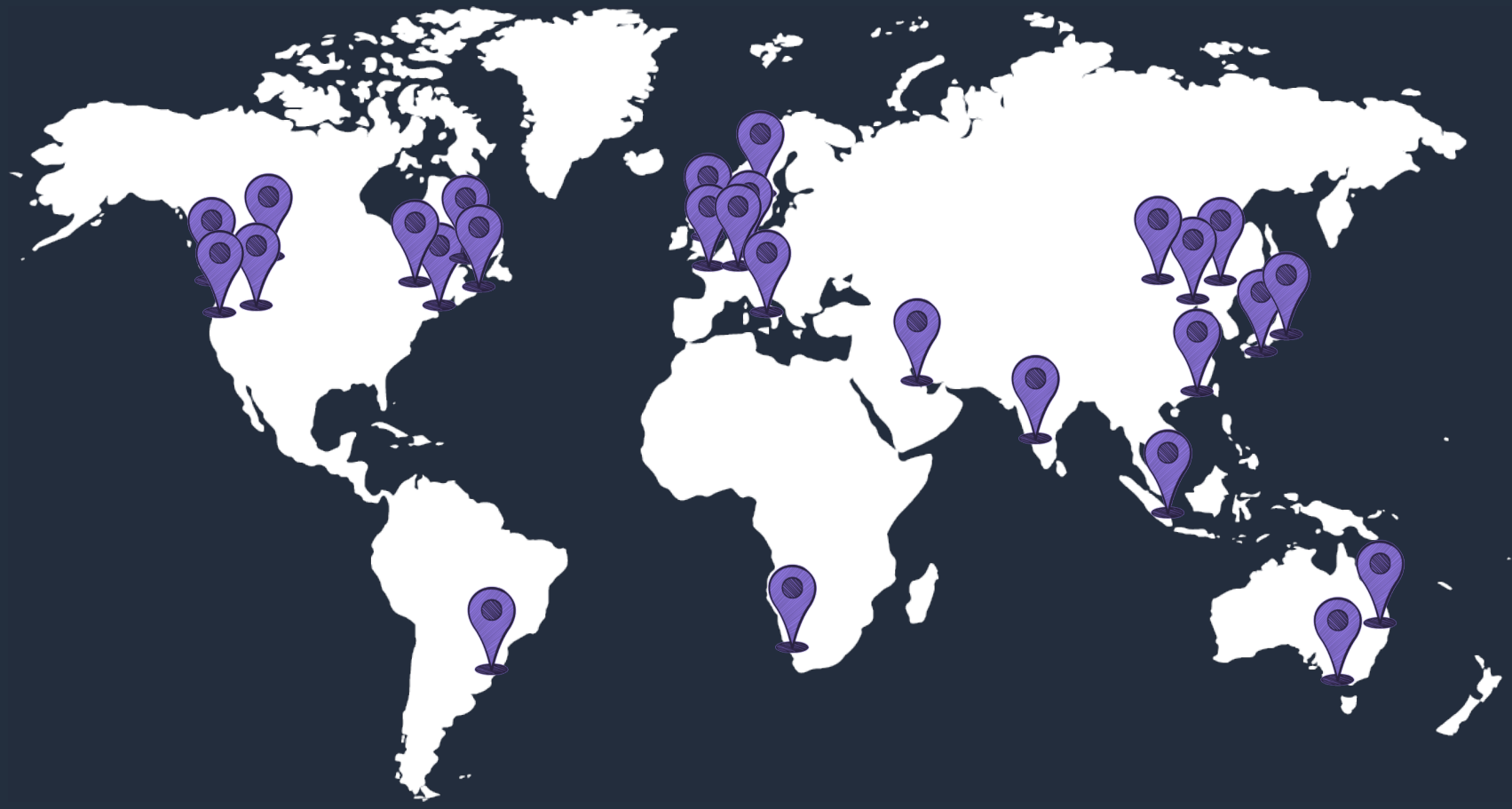
# Global footprint

AWS Regions provide multiple, physically separated and isolated Availability Zones which are connected with low latency, high throughput, and highly redundant networking



**33** Geographic regions

**105** Availability Zones

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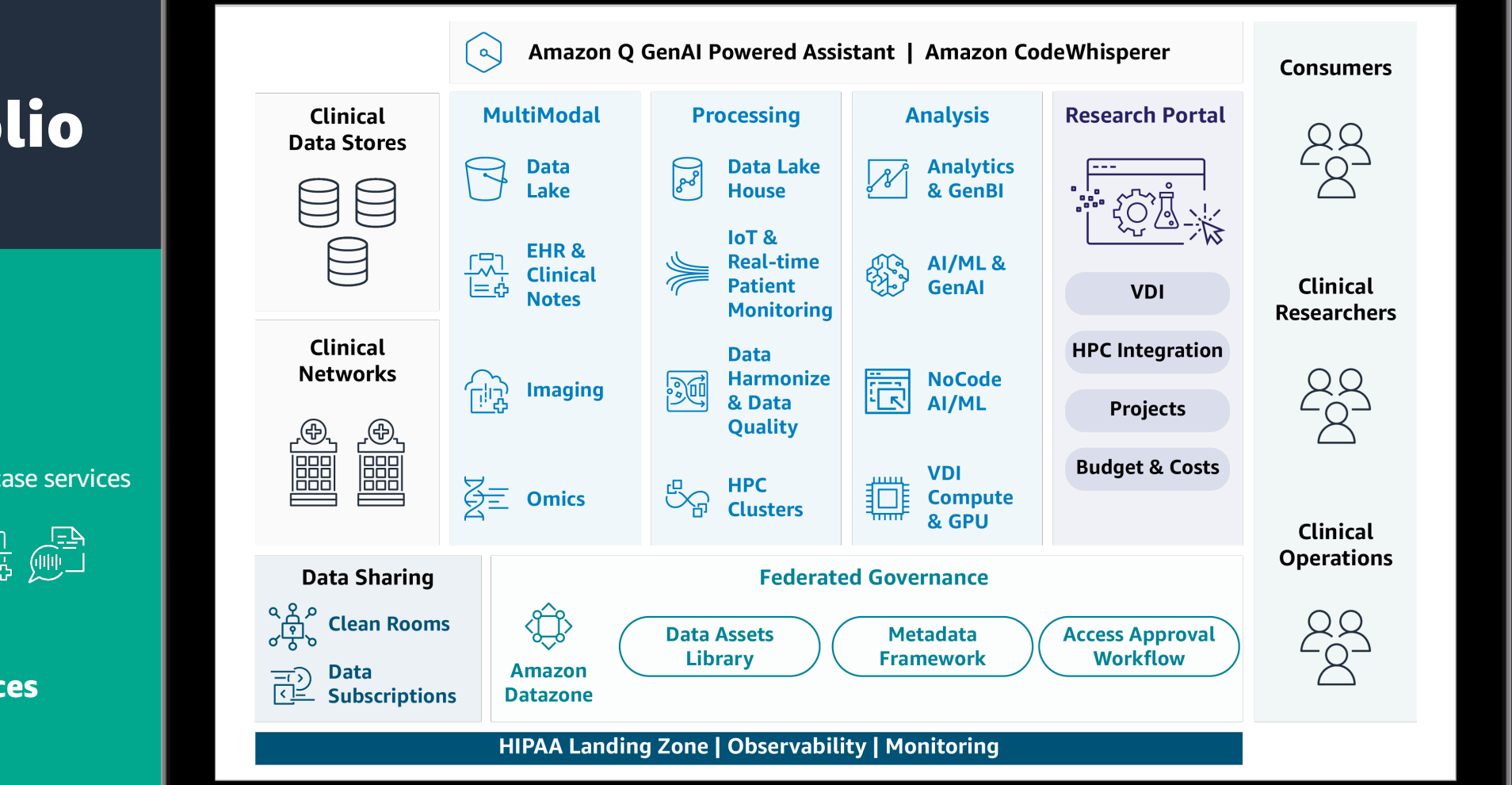
# AWS Modern Health Portfolio

NEW

**6** **Healthcare Services**

AWS built and managed use case services

**2** **Data Federated Services**

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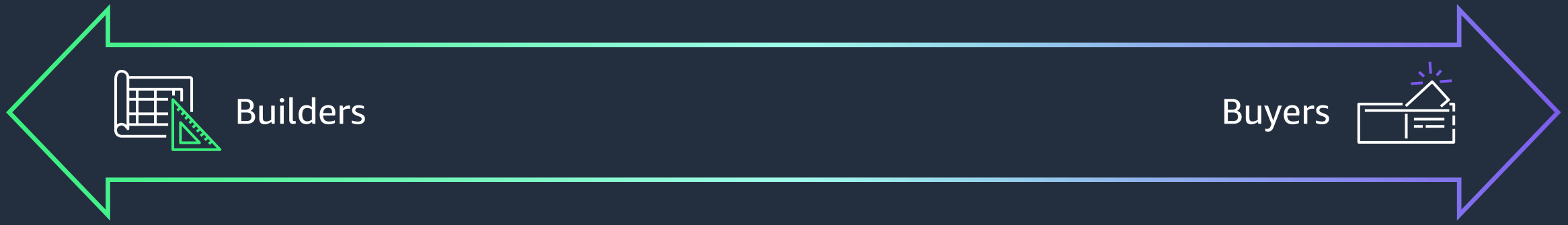
# Solutions for builders and buyers

AWS provides **solutions** for our health customers **wherever** they are in the builder–buyer continuum




| Native AWS services | Health-specific AWS services | AWS solutions and Quick Starts | AWS ProServe and GSIs | AWS Partner Solutions and AWS Marketplace |
|---|---|---|---|---|

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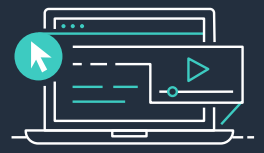
# Achieve your cloud goals with AWS Training and Certification

Comprehensive skill development plan for broad cloud fluency



Digital training

Classroom training

AWS Jam and Hands-On Labs

Organizational resources

AWS Certification

Cost savings (TCO)

Staff productivity

Operational resilience

Business agility

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# Making it real:
# Customer case studies

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# Tufts Medicine migrates its entire digital healthcare ecosystem including Epic infrastructure to AWS cloud

## Challenge:

Tufts Medicine was looking for ways to create a seamless environment for patients and care teams, supported by technologies that make it simple to access and navigate services, provide tools to manage illness, and minimize wait times.

## Solution:

Tufts Medicine is migrating its entire digital healthcare ecosystem to create a digital program on AWS. This program consists of the infrastructure for Epic, as well as a complex integration of more than 300 supporting healthcare and business applications. Tufts Medicine's went live with Epic on AWS and an initial set of third party applications in April, 2022.

## Benefits:

- Tufts Medicine is the largest organization to run the entirety of their Epic infrastructure on the AWS cloud
- Tufts Medicine can save as much as 20 percent each year (~ $3 million) through this cloud-based modernization
- Tufts Medicine will improve provider and patient experience, bolster the security and reliability, and enable delivery of more personalized medicine

Tufts Medicine

"We are creating a frictionless and culturally competent care environment for patients, physicians, and the entire care team by migrating our entire digital healthcare ecosystem to the AWS cloud. This enables our Tufts Medicine team to integrate data-driven intelligence into everyday health and care that is more secure, resilient, and simple to use."

Learn more

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# Optimizing enterprise imaging in the cloud using Visage 7 PACS platform on AWS with Allina Health

## Challenge:

Allina Health wanted to replace its picture archiving and communication system (PACS), which relied on an aging infrastructure that loaded images slowly and frustrated radiologists seeking to optimize patient care.

## Solution:

Allina Health uses a managed PACS-as-a-service solution from Visage Imaging, an AWS Partner. Radiologists read images quickly and accurately, helping to alleviate the anxiety of patients waiting for their results.

## Benefits:

- 67 percent faster imaging display time
- Three weeks to deploy a working environment
- Integrated PACS with Epic electronic medical record workflow
- Off-loaded management of updates to PACS infrastructure

Allina Health™

"Using Visage 7 on AWS, we've significantly improved the speed of our imaging. Getting images quickly for our radiologists and physicians is key for us. That's very beneficial for patient care."

Brad Messerschmidt
Manager of RIS and PACS Applications
Allina Health

Learn more

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# CHOP optimizes pediatric patient research using AWS HealthOmics

## Challenge:

The Children's Hospital of Philadelphia (CHOP) wanted to address the challenge of making multiomic data jointly accessible with other datasets, and then using technologies like artificial intelligence and machine learning for better diagnosis and treatment.

## Solution:

CHOP uses AWS HealthOmics to analyze and generate insights from multiomic data—giving researchers more time for unlocking scientific discoveries to improve pediatric treatment and cure diseases. For patients, this translates to faster diagnoses, better treatments, and improved outcomes.

## Benefits:

- Improved ability to index information more efficiently
- Facilitate the training of a new generation of physician-scientists and lab researchers in omics research
- Helps researchers get access to searchable datasets in minutes rather than days


"Using AWS HealthOmics, we can have all this data in one database and query it with just a click, saving hours, if not months, of work in finding genes."

Learn more

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AWS for Healthcare

# Modernize with confidence and innovate with ease

Deliver personalized healthcare

Accelerate innovation

Drive patient, clinician, and member satisfaction

Unlock the value of data

Achieve efficiencies in healthcare management and operations

Confidently respond and recover

Leverage the cloud to realize costs savings

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# Q&A

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# Thank you!

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Please take our survey: AWS for health and academic medicine

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