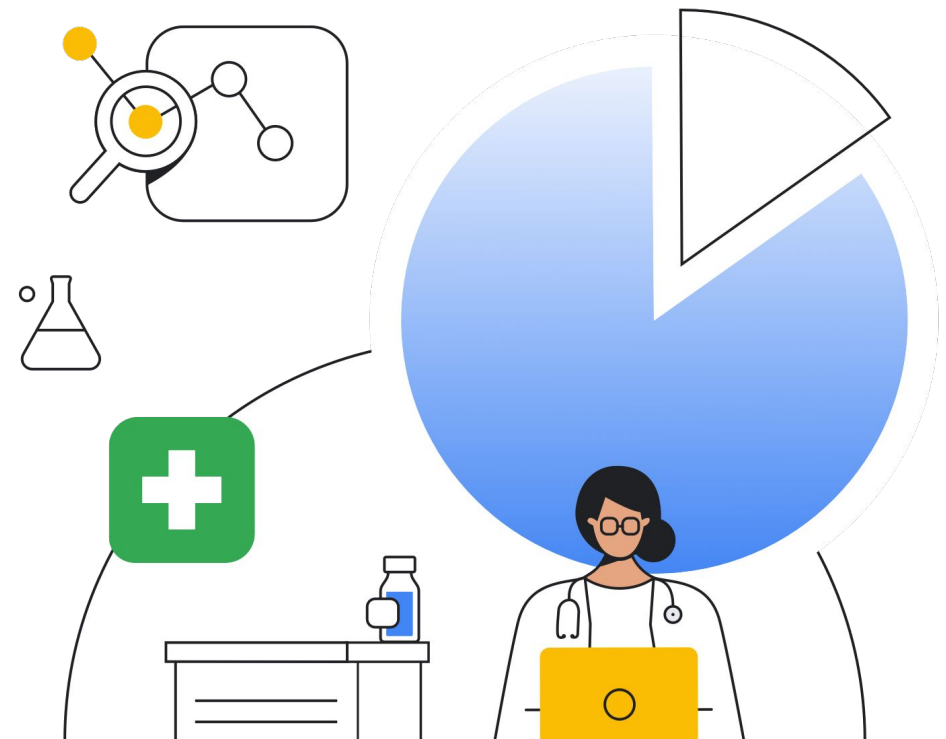Google Cloud

3 ways to accelerate your healthcare data transformation

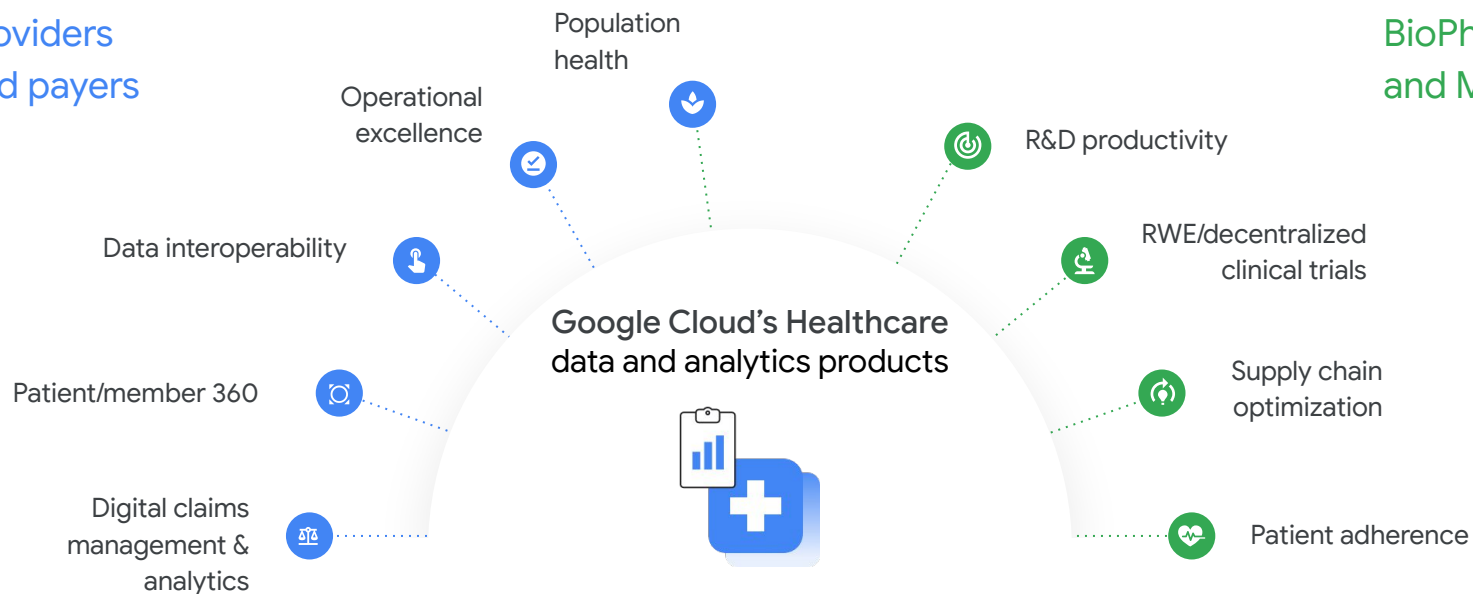Drive innovation and growth in your organization by unlocking valuable insights from your data

It all begins with data...

From providing patients with the highest quality of care, to accelerating research, improving clinical trials and optimizing efficiency, data is the foundation needed to drive the healthcare and life sciences industry forward.

How can data help you innovate?

Providers and payers

BioPharma and MedTech

- Population health
- Operational excellence
- Data interoperability
- Patient/member 360
- Digital claims management & analytics

Google Cloud's Healthcare data and analytics products

- R&D productivity
- RWE/decentralized clinical trials
- Supply chain optimization
- Patient adherence

Now, let's get started

Read on for our top **3 ways to accelerate your healthcare data-driven transformation.**

01. Optimize for a data-driven healthcare future
02. Prime your data for interoperability
03. Transform with smart, near real-time decisions
\+ Next steps

1.

Optimize for a data-driven healthcare future

The sheer volume of data in your organization presents an opportunity to provide deeper insights, distribute them to the right people, and then make better real-time decisions – all with the highest levels of security, compliance, and respect for user privacy. Here are some tips on optimizing your healthcare data to **help you make smarter, data-driven decisions:**

Start at the end

Identify the KPIs that matter most to your team, and organization at large. Understand the outcome and process metrics for these KPIs. Think through the use cases and decision points in the workflow for which you will leverage the data.

Not all data is created equal

Determine the data sources that, when combined, will provide the most complete and timely input to the KPIs & metrics that matter.

Democratize your data

Connect your data sources to make them accessible and actionable for different teams across your organization. From caregivers to clinicians to administration, billing & IT, empower your teams to adopt a data-driven approach in a way that makes sense for their goals.
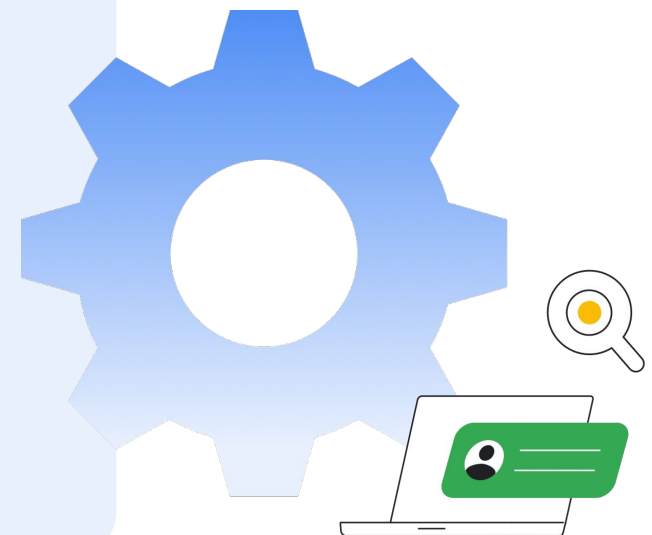
How Google can help with optimization

Google Cloud's healthcare data & analytics products have **built-in automation** to ensure your data-driven healthcare organization is operating at the highest level. We have leveraged Google's expertise in **processing and analyzing large data sets** and brought it to healthcare providers and payers, who have the most complex data schemas across clinical, claims, and imaging data.

Technical considerations

- You may experience data latency between different sources. If you need near real-time metrics, you can't rely on a traditional data warehouse that is updated nightly or every week.

- Ingest the data onto the cloud for scale, and keep it in its native schema and format in a relatively raw data lake to maximize its accessibility and real-time value.

Customer success stories

Organizations like Schrodinger and Emory are moving the industry forward by priming their data for advanced analytics.

EMORY UNIVERSITY

Emory University combines clinical data, machine learning, and the scalable infrastructure of Google Cloud to predict sepsis in intensive care patients, enabling them to provide better care for those most at risk, while also controlling medical costs.

SCHRÖDINGER.

Schrödinger uses high performance computing power in the cloud to accelerate the discovery of new medicines, bring medicines to patients more quickly and significantly reduce costs.

Google Cloud

1. Optimize for a data-driven healthcare future

Big data is a major differentiator for high performing organizations as it increases revenue (8%) and can reduce operational costs.

Source: Becker's Hospital Review

2.
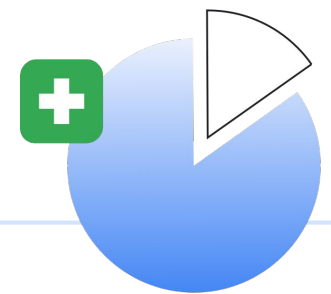
Prime your data for interoperability

Interoperability is key to achieving the transformational goals in healthcare and life sciences for everything from telemedicine to virtual trials to app-based healthcare ecosystems. As we reflect on the lessons of COVID-19, building resilient interoperable health infrastructure will not only be a catalyst, but table stakes for delivering better care and getting therapies out to market faster.

The next few years promise to accelerate data interoperability and the adoption of data sharing and open standards even further— ushering in new and meaningful partnerships across the healthcare ecosystem, new avenues for business growth, and new pathways for patient-centered innovation.

Best practices

Here are some tips for priming your data for new models in the healthcare ecosystem:

- **Security and data privacy are top priorities**. Implement a simple package with best practices to help comply with healthcare data regulations.

- **Simplify interoperability** between traditional clinical EHRs and the increasing number of add-on patient and member applications.

- **Integrate clinical data across facilities** to analyze the enterprise view and the longitudinal patient record. This will help you improve operational efficiency and deliver the highest value of care.

How Google can help with interoperability

Our best practices and intuitive tools that understand healthcare data in its native formats make it easy to get started and ramp up, enabling a **faster move to interoperability standards, and future-proofing your transformation to a more data-driven healthcare organization.** Google Cloud's healthcare data & analytics products can help you accelerate and de-risk your implementation – so you can focus on members and patients.

<u>Tip</u>: Use [Google Cloud De-identification services](#) to protect sensitive information before leveraging for ML workloads.

Technical considerations

- Use a predefined cloud environment for healthcare data, instead of building your own.

- Harmonize your clinical data into FHIR, the interoperability standard for healthcare data, enabling other applications to use the harmonized data.

2. Prime your data for interoperability

90% of providers keep old applications running to preserve data.

Source: [Deloitte](#)
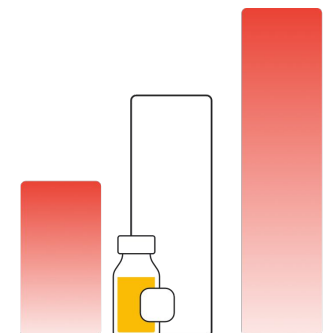
> The challenge in 2020 is we had too much data and not enough wisdom. Partnership between Mayo and Google gives us that opportunity to take so much noise and find the signal.

Dr. John Halamka,
M.D., President, Mayo Clinic Platform

3.

Transform with smart, near real-time decisions

Once your data is harmonized, unlock its value with analytics and AI. Make smart, near real-time decisions that can help you reach your business goals and improve health outcomes of patients and communities.

Let data offer you a clear lens

Use data visualization to assist decision-making, continually measuring your performance and reevaluating accordingly. Access to near real-time insights lets you identify problems across your organization immediately, so you can get them resolved in time to make a difference to the patient outcome or to the business.

Scaling insights is key

Maximize the efficiency and output of your data teams by automating tasks and building for scale, rather than chasing ad hoc requests.

Automate key, repetitive processes

Leverage AI to automate processes, starting first with categorizations to assist workforce productivity. Then, move on to predictive analytics to address higher value use cases.

Technical considerations

- By leveraging Google BigQuery and our AI tools, you can ensure the same pattern is used for training an ML model as executing it, increasing its applicability.

How Google can help with near real-time decisions

We bring our scalable analytic technology to your now harmonized healthcare data in the FHIR industry standard, enabling you to address your thorny business problems. We are the thought leaders who are continually helping improve the field of **AI research**, and applying these advances to healthcare and other industries, at scale. We leverage our decades of research and innovation in AI, to help you realize a data-driven healthcare future, and scale to meet the needs of your biggest challenges each year.

3. Transform with smart, near real-time decisions

59% of healthcare executives expect a full return on their AI investments within 3 years.

Source: 2020 AI Survey

AI/ML success stories

American Cancer Society

American Cancer Society uses Google Cloud machine learning to **fight breast cancer 12x faster.**
Watch how

PORTAL TELEMEDICINA

Portal Telemedicina uses an AI-assisted diagnostic service solution to **deliver healthcare to millions** of people in Brazil and Africa.
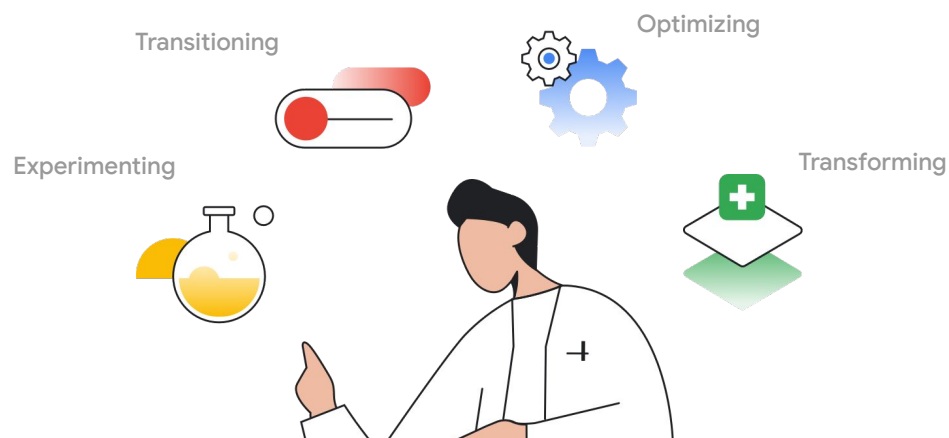Watch how

JOHNS HOPKINS UNIVERSITY

Johns Hopkins University uses AI/ML to advance medical imaging, enabling **faster and more accurate decision-making** for brain injury patients.
Read how

Google Cloud

Let's get solving

No matter where you're at in your data journey, we are here to help.

Transitioning

Optimizing

Experimenting

Transforming

Want to get to 'transforming' faster?

See how Google Cloud's healthcare and life science solutions can help you move your organization forward and accomplish your goals faster.

Learn more   Contact us