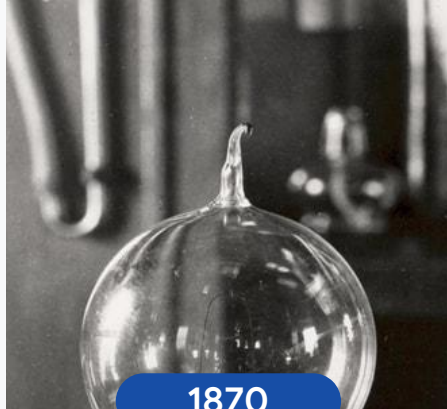


Single Day Event

Unlocking Value: AI in Healthcare

Sujata Dusi
Customer Eng Lead, Google Cloud



1870

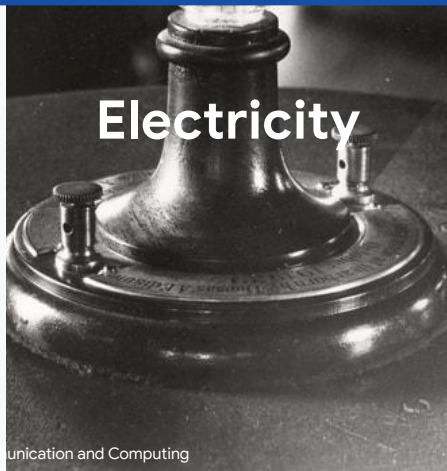


today

We're in an **AI-driven** revolution

1784

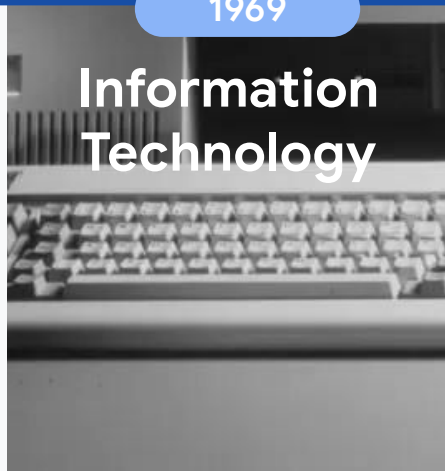
Steam Power



Electricity

1969

**Information
Technology**



**Artificial
Intelligence**

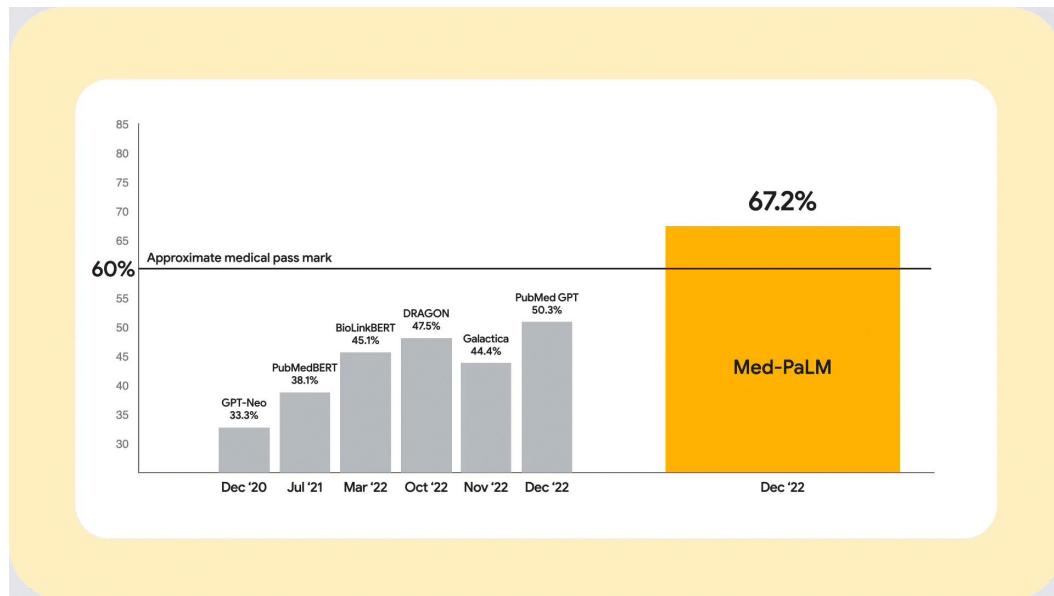


Google

Source: AI: Recent Trends and Applications, Emerging Communication and Computing

Since today's it's all about Healthcare: Let's talk Med-PaLM

- **Med-PaLM** was able to achieve passing scores of USMLE medical exams with a performance of **67.2%** - since Dec 2022
- Announced in March 2023, Med-PaLM 2 was the first AI system to obtain **expert doctor score** on USMLE
- Med-PaLM 2 reaches **85%+ accuracy** on par with expert test takers and an almost 18% leap over Med-PaLM
- Now in Private Preview (Sept 2023)



What is unique about Med-PaLM?



Regulated Industry - Safety and Trust

HCLS is a heavily regulated industry. Med-PaLM is designed to better meet its demands for Safety, Equity and Trust. We vet customer use cases.



Medically Tuned

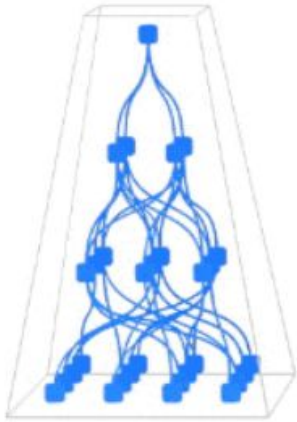
Trained and Tuned on Healthcare vocabulary and content. Expected to have better quality of answers and more accurate summaries than other commercial LLMs in HCLS space.



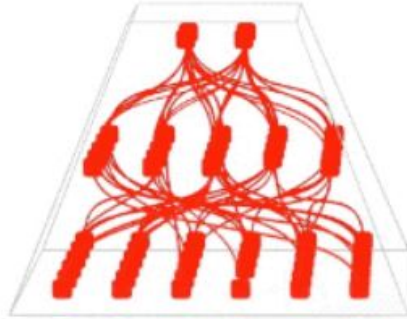
Filter Configuration

Med-PaLM will have a default setting of select filters removed in order to permit Medical questions and summaries.

What is Multimodal?



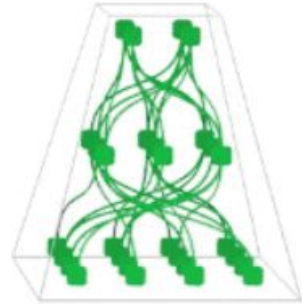
Images



Text



Sound

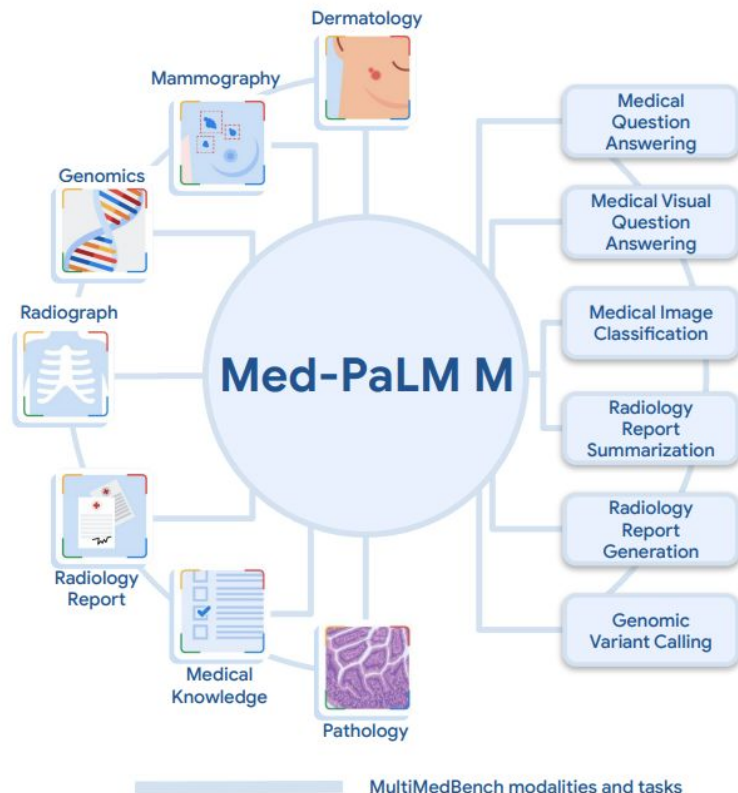


Video

Multimodal towards Generalist Biomedical AI

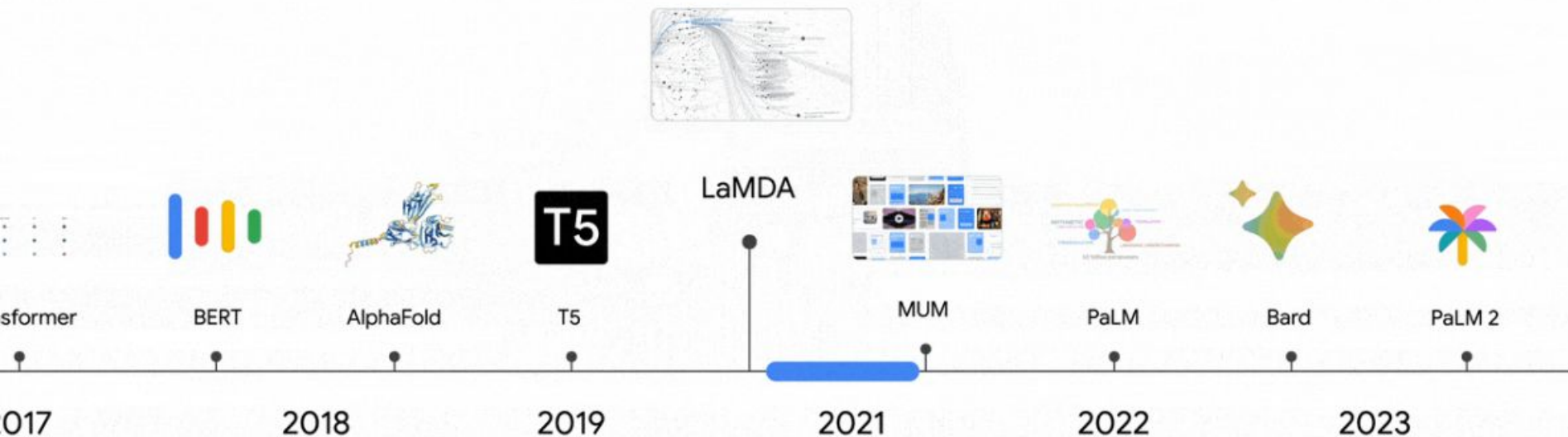
Tao Tu^{*, 1, 1}, Shekoofeh Azizi^{*, 1, 2},
 Danny Driess², Mike Schaeckermann¹, Mohamed Amin¹, Pi-Chuan Chang¹, Andrew Carroll¹,
 Chuck Lau¹, Ryutaro Tanno², Ira Ktena², Basil Mustafa², Aakanksha Chowdhery², Yun Liu¹,
 Simon Kornblith², David Fleet², Philip Mansfield¹, Sushant Prakash¹, Renee Wong¹, Sunny Virmani¹,
 Christopher Semturs¹, S Sara Mahdavi², Bradley Green¹, Ewa Dominowska¹, Blaise Aguerre y Arcas¹,
 Joelle Barral², Dale Webster¹, Greg S. Corrado¹, Yossi Matias¹, Karan Singhal¹, Pete Florence²,
 Alan Karthikesalingam^{1, 1} and Vivek Natarajan^{1, 1}

¹Google Research, ²Google DeepMind



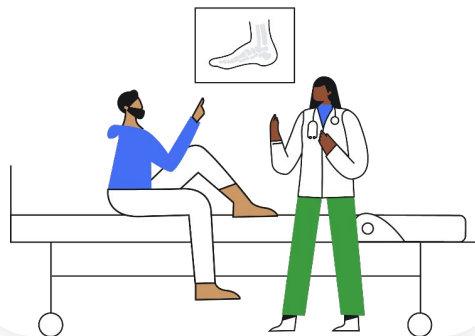
Your partner for AI success

Our pioneering research and development
have made recent advances in AI possible.

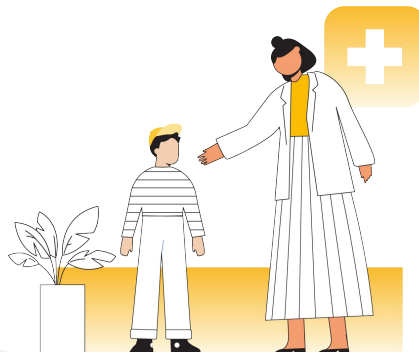


What are key themes for Gen AI in healthcare?

Reduce Clinician
burnout, **boost**
efficiencies



Elevate consumer and
patient-centricity



Advancing
research &
development



Document Generation, Search & Synthesis

Example only

Streamline the generation of physician letters to increase time with patients and speed to patient care.

Example: Automate the process of generating prior authorization draft submission letters for procedures, medication, or medical device approvals.

“Write PA request for John Doe, 60 years old, high blood pressure, needs a cardiac diagnostic cath, insert cpt codes”



Attention: Medical Review Department
Re: Prior Authorization Request for
Cardiac Diagnostic Catheterization

Inbox x



Dr. Andrea Doe

to Medical Review Dept. ▼

07:31 (3 hours ago) ☆ ↶ ⋮

Patient Name: John Doe

Patient ID: 123456

Dear Medical Review Department,

I am writing to request prior authorization for a cardiac diagnostic catheterization for my patient, John Doe.

Mr. Doe is a 60-year-old male with a history of hypertension. He has been experiencing chest pain and shortness of breath for the past few months. He has been evaluated by his primary care physician, who has ordered a cardiac diagnostic catheterization to rule out coronary artery disease.....

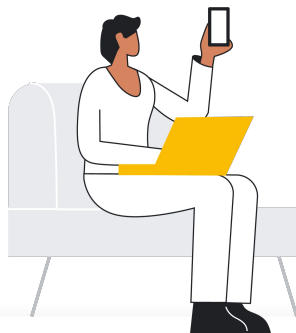
Digital Member Concierge (Provider focus)

Example only

Assist patients in explanation of plans & benefits, connect with doctors, book appointments and and enhance consumer access to services in simplified language.

Example: A pregnant patient interacts with digital concierge to find gynecologists, sign up for classes, and find other relevant information.

On a hospital website, an expecting parent asks the digital concierge for information instead of browsing hospital website



Digital Concierge

I just found out I am pregnant. What do I need to do?

Congratulations! You should make an appointment with your doctor to confirm your pregnancy and discuss your options. You may also want to consider taking a prenatal vitamin and eating a healthy diet.

Tell me female gynecologists at hospital

The female gynecologists at the hospital are: Dr. Jane Doe, Dr. Celine Doe, Dr. Jenny Doe, Dr. Andrea Doe, Dr. Amanda Doe, Dr. Janet Doe, Dr. Sheila Doe, Dr. Izzy Doe, Dr. Janine Doe, Dr. Sara Doe, and Dr. Charlene Doe.

How do I sign-up for childbirth and parenting classes

You can sign up for childbirth and parenting classes by calling the Cymbal New Parents office at 555.000.1234 or emailing them at newparents@cymbalparenting.com

Public & Private Contextual Search

Example only

Query and extract insights from from public datasets (medical literature) and private datasets (ELN). Quickly and accurately source insights from public and private datasets. Summarize research into plain language

Example: Searching FDA website and public websites to search for secondary indication for existing pharmaceutical products

"Show me all FDA submissions related to Cymbal drug"



Here is a list of FDA submissions for drugs similar to Cymbal that have been filed for secondary indications:

Drug A: Secondary indication for the treatment of pain

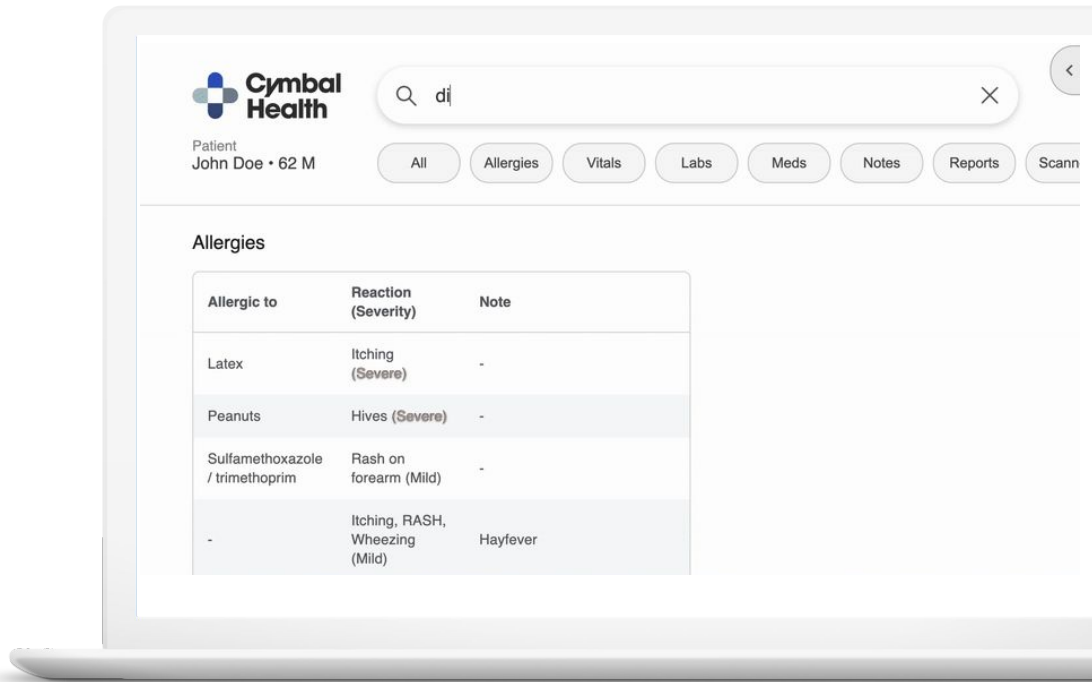
Drug B: Secondary indication for the treatment of nausea

Drug C: Secondary indication for the treatment of vomiting

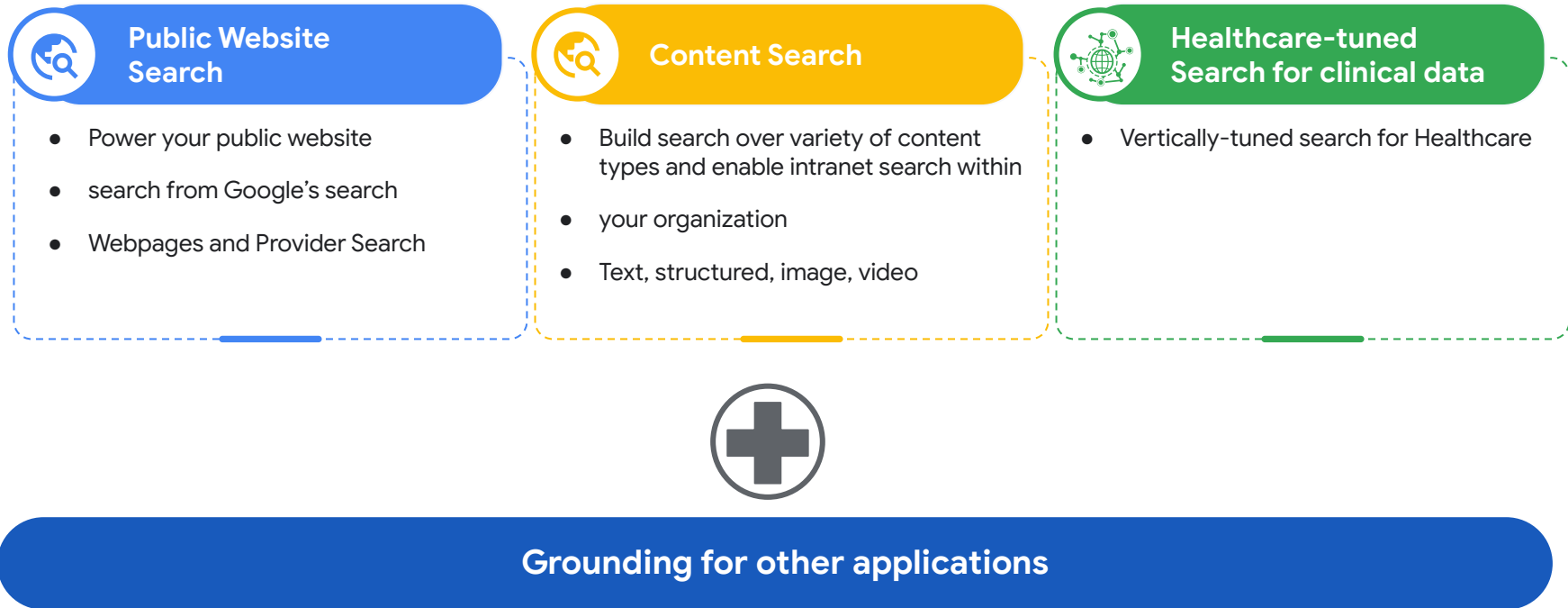


Vertex AI Search for Healthcare: Search and question-answering on patient's clinical record

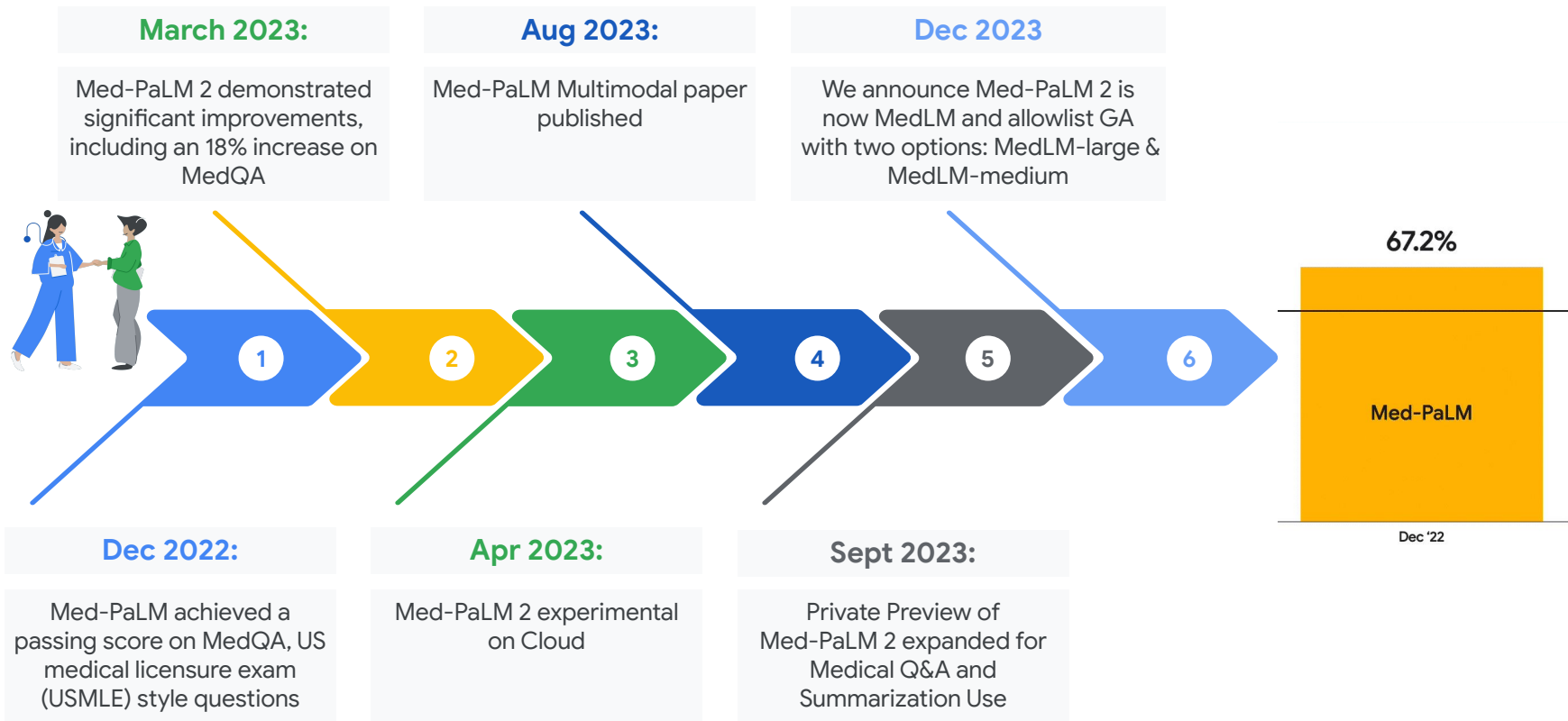
- **Medically-tuned search** on patient record to serve use cases across Providers, Health Plans, and ISVs such as Meditech
- **Care Studio Search technology** brought into Vertex AI Search stack
- **HDE/FHIR as the data layer** for the first version of search; **to be extended to BigQuery** and other data sources
- **RAG** to answer questions using Gemini/MedLM models



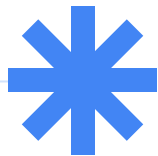
Vertex AI Search Use Cases



MedLM Journey from Research to the Customer



AI holds enormous potential to **improve the customer experience** while driving **operational and cost efficiencies**



Generative AI in customer service functions could increase **productivity by 30-45%**¹

Generative AI could further reduce volume of **human-serviced contacts by up to 50%**¹

Customer Service Gen AI activities

Personalize customer responses

Quickly retrieve documents

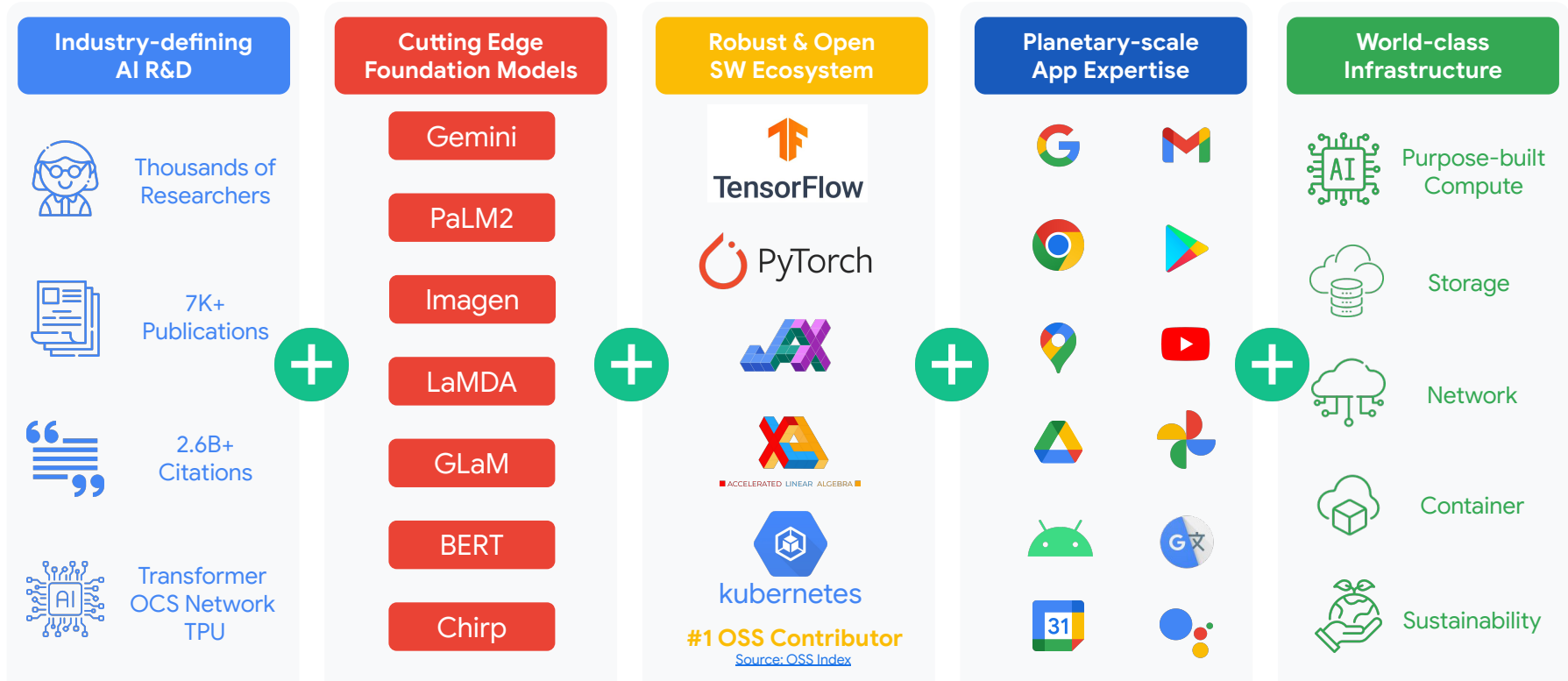
Generate consistent responses

Summarize information from a website

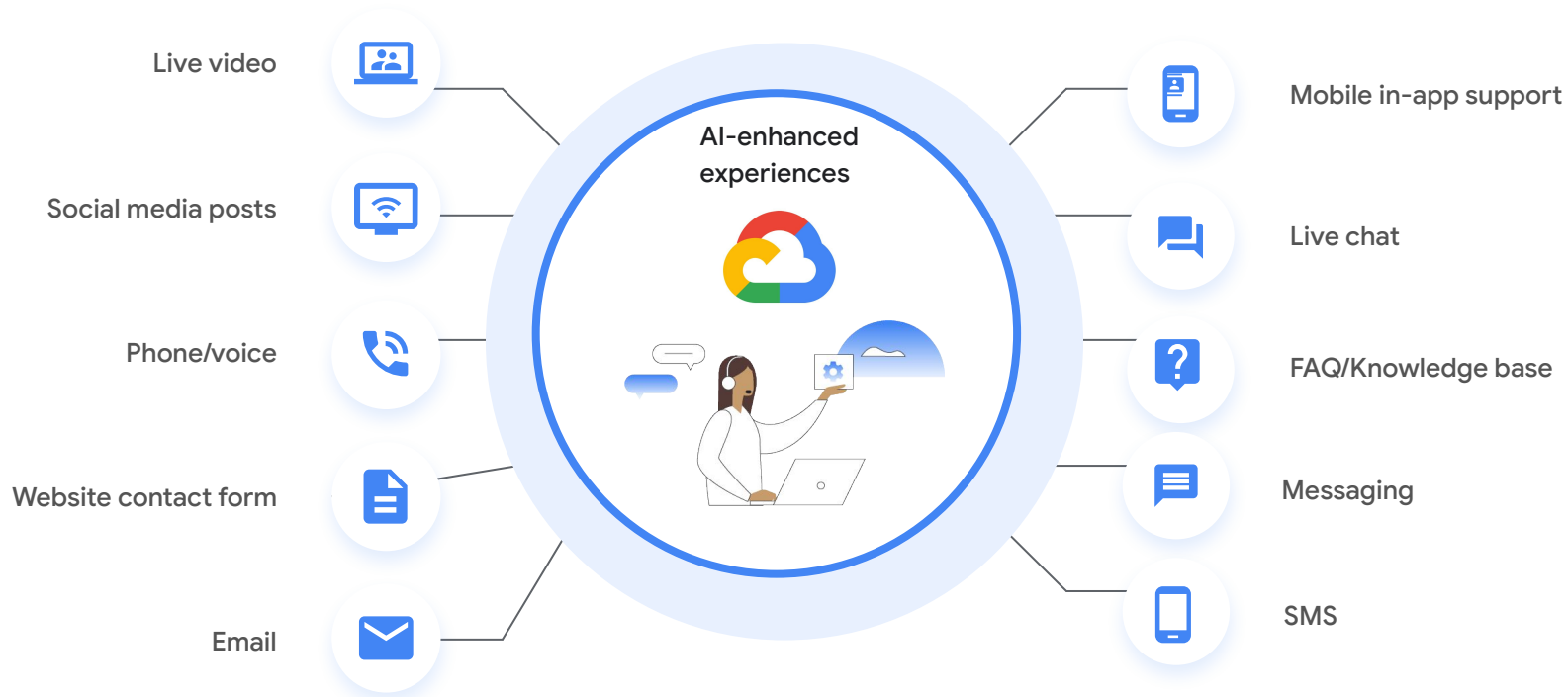
Identify product suggestions

Support agent training & onboarding

Google has built **Comprehensive Gen AI** solutions leveraging upon its diverse strengths



Google Cloud's end-to-end approach can allow you to transform the customer service experience **wherever they are in the journey**

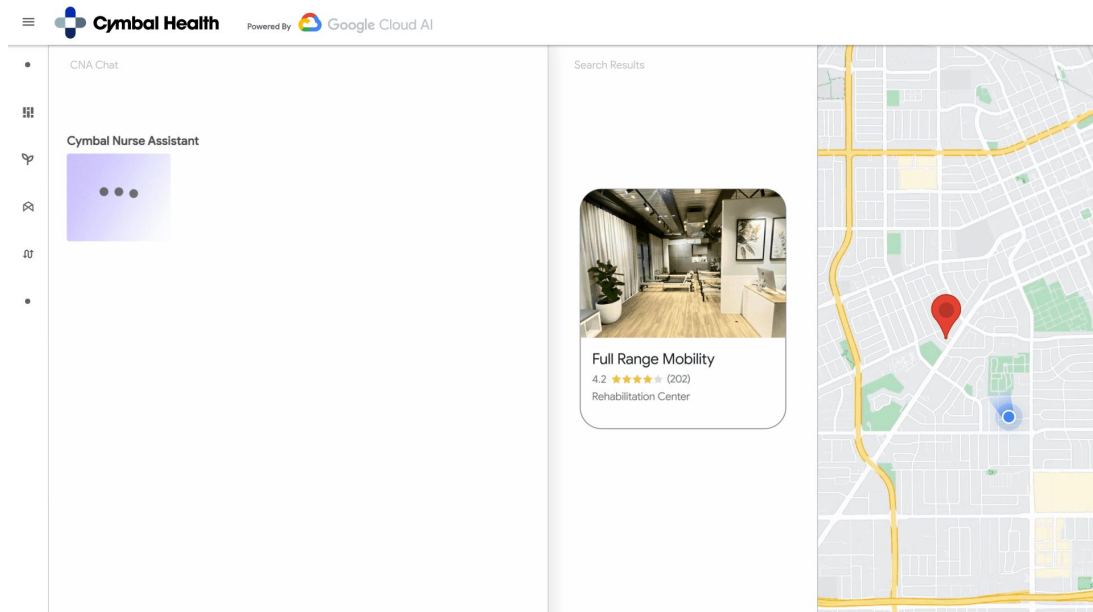


Generative AI agents can retrieve information and submit basic transactions

Generative AI agents can be created to handle routine actions like appointment scheduling or checking balances.

Helps improve:

- Call containment
- Agent utilization rate
- Customer satisfaction



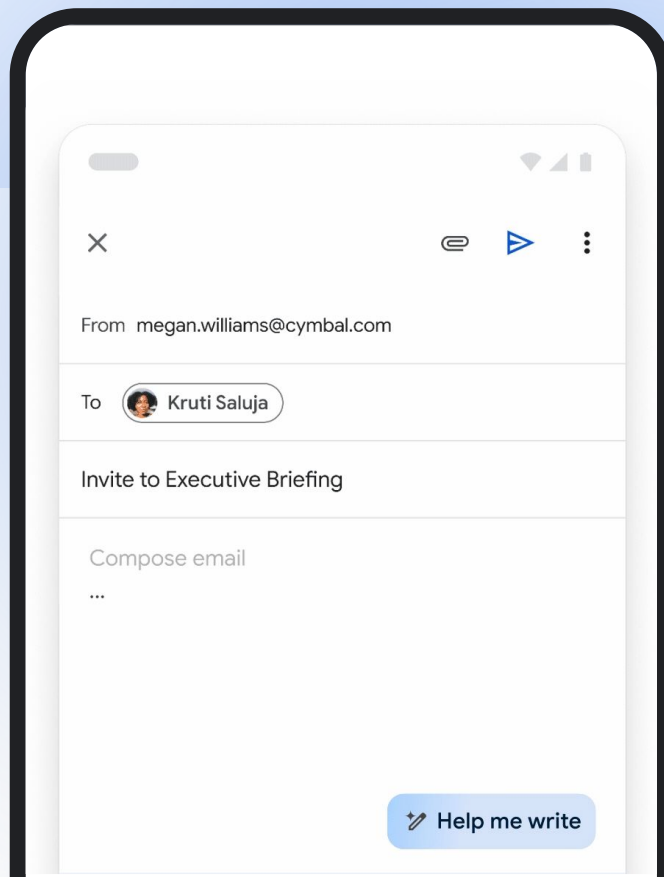
Empower your care team with **AI-powered** collaboration tools

March 2024

Enhanced clinical Collaboration

Google Workspace to showcase standard mobile-first capabilities around collaboration, communication, as well as Google Cloud interop for Gen AI.

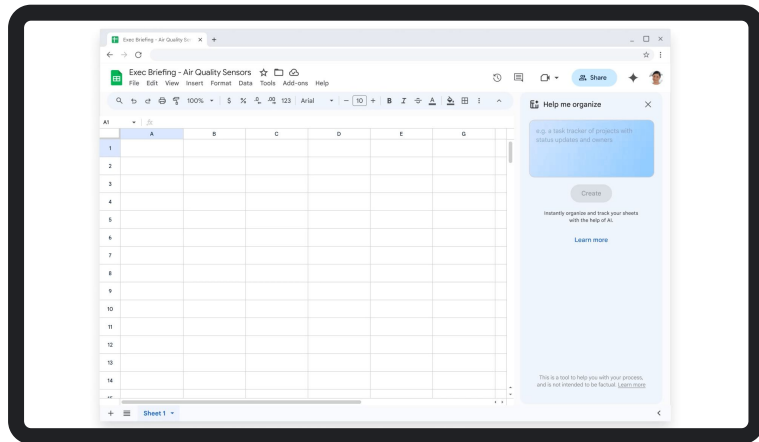
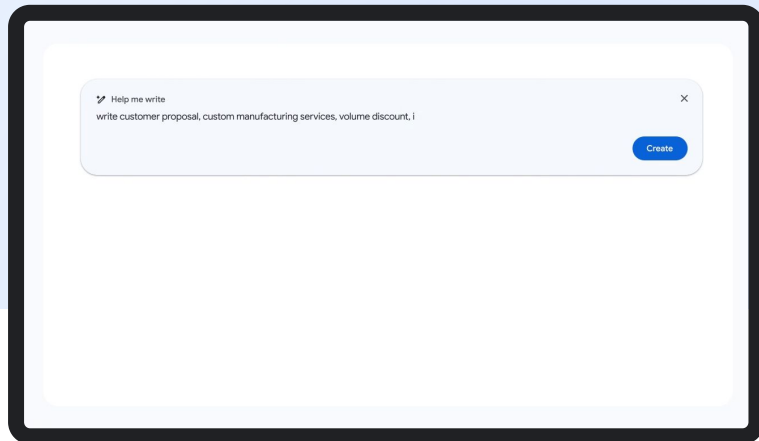
- ✓ **Mobile-first collaboration and communication for clinicians in care facilities.**
- ✓ Access information, chat with colleagues, and leverage Help Me Write in Gmail to accelerate communication. Use Gemini in Chat for finding information quickly, utilize Gemini for finding information on the go.



Healthcare Communications

Google Workspace to showcase best-in-class collaboration and Gemini for Google Workspace.

- ✓ **Focused on Knowledge Worker persona across communications, marketing, public relations, project management.**
- ✓ Leverage Docs, Sheets, and Slides to efficiently create an entire marketing, comms, PR, and public relations strategy around a healthcare facility project.
- ✓ [Gemini Prompt Flow](#)
- ✓ [Gemini Demo Video](#)

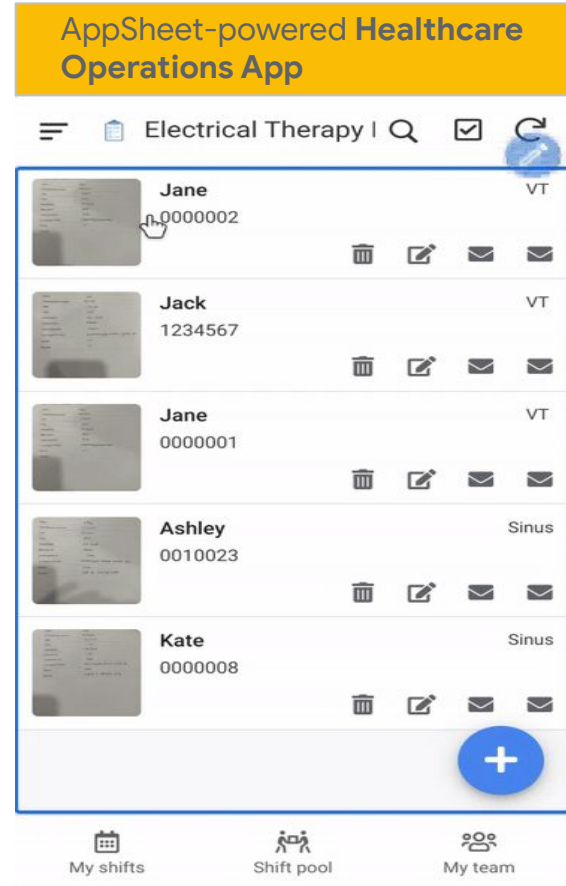


Every second counts. Don't waste your time! Transcribe instantly with **OCR**

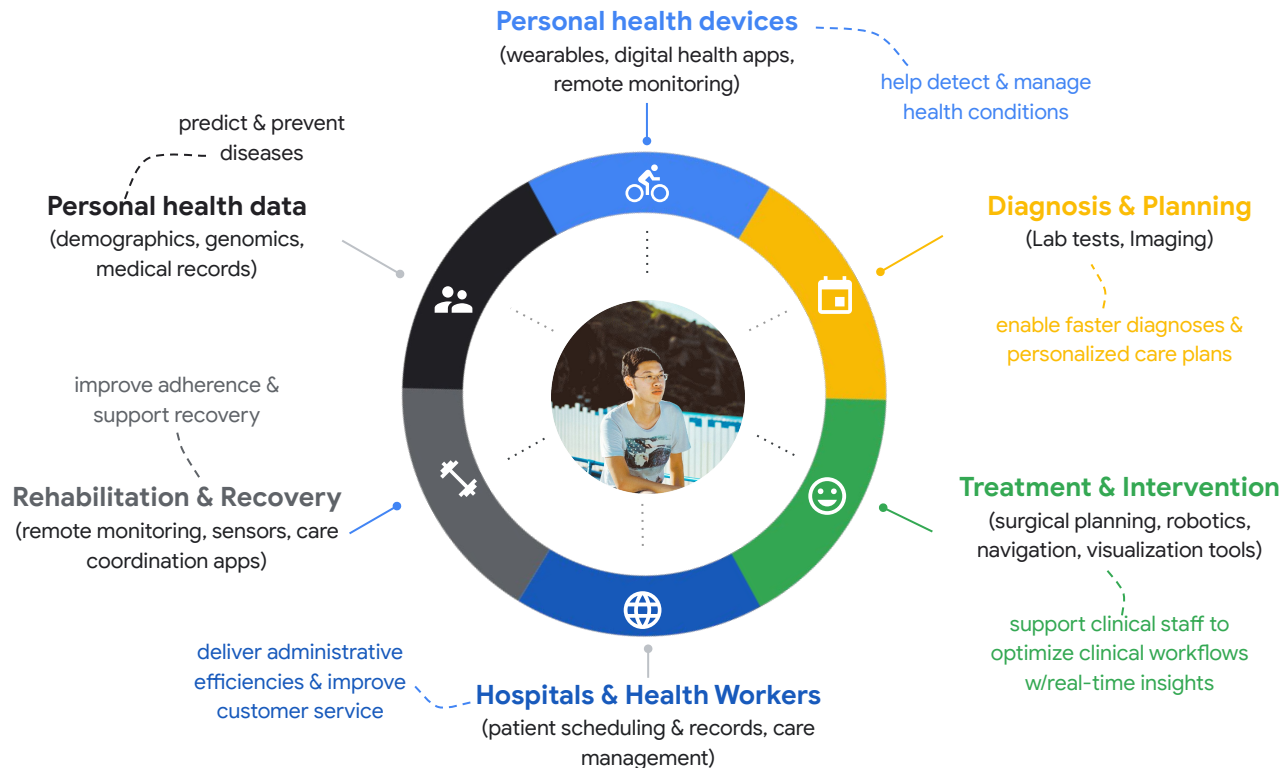
Inefficient shift scheduling leads to communication gaps and coverage issues.

Shift management features:

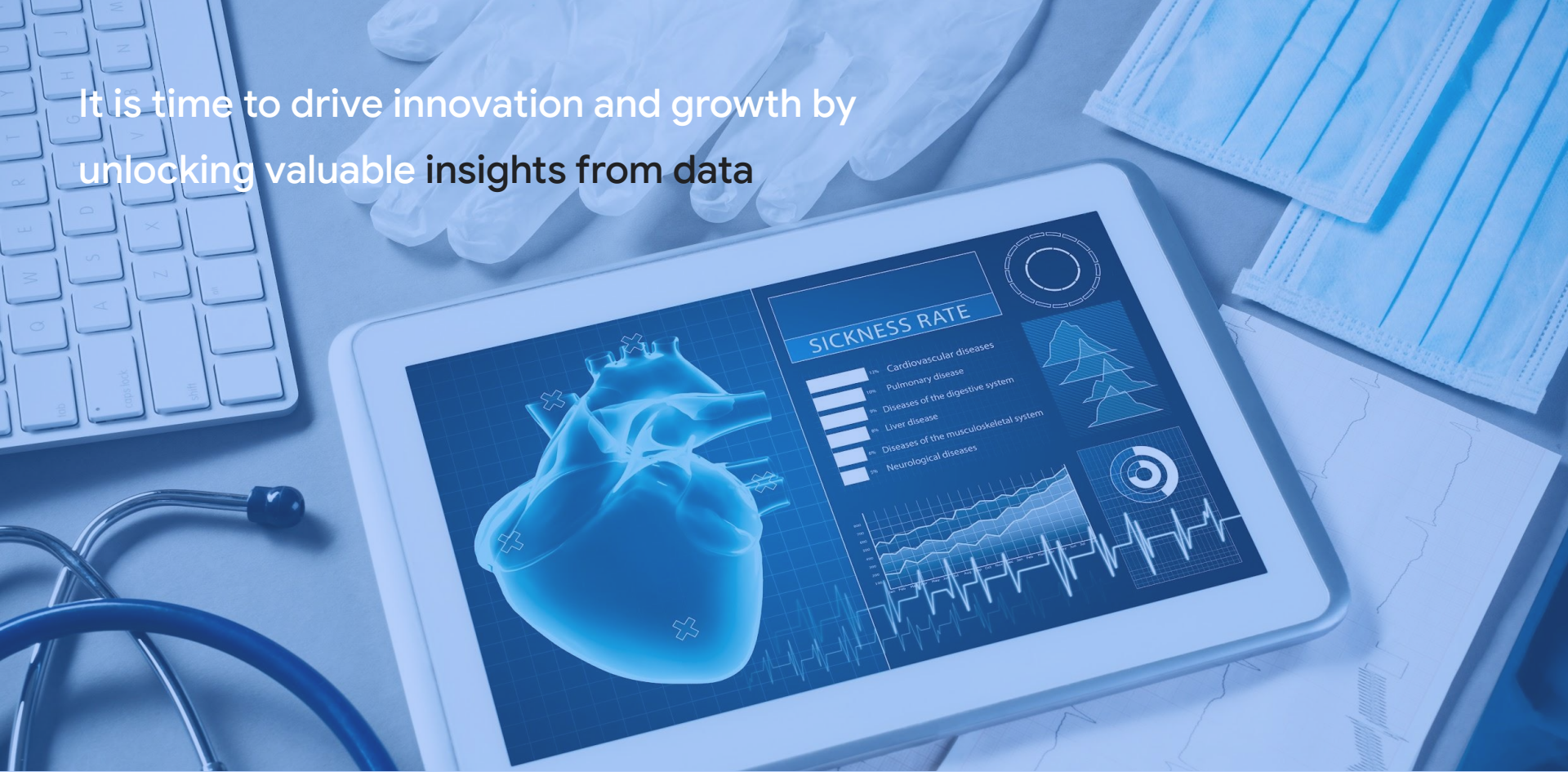
- Automated scheduling
- Improved communication
- Real-time staff visibility



Data and AI Will Transform Healthcare



It is time to drive innovation and growth by
unlocking valuable insights from data





**The Global Healthcare
Data Science Community**

Contact Channels

UK +44 1843 609600
office@phuse.global
phuse.global

Social Media

@phusetwitta
/phusebook
/phusetube
/company/phuse

Thank you