Welcome to the Era of Personalized Health aws is how

The era of personalized health is here. At the intersection of scientific discoveries and cutting-edge technologies, healthcare and life science organizations around the globe are innovating around a key

focal point—the patient. From customized medicines developed from patients' genetic codes, to technologies that bring medical care to their fingertips, these innovations are powering a personalized health movement.

Empowering patients with targeted, individualized care improves health outcomes and revolutionizes

the next generation of healthcare delivery. Industry leaders leverage AWS for Health to increase the pace of innovation, unlock the potential of health data, and develop more personalized approaches to therapeutic development and care.

GENOMICS-BASED INSIGHTS

The Right Treatment at the Right Time Insights from patients' genetic codes enable faster and more accurate diagnoses and effective treatment decisions.

PERSONALIZED THERAPIES **Custom Treatments & Care** Precision therapies act on specific targets to treat diseases at their source.





personal decisions.



PATIENT-DRIVEN HEALTH

Genomics-Based Insights

EXPANDED ACCESS POINTS New Ways of Accessing Care Innovative interfaces connect patients and providers like never before, increasing accessibility and ensuring continuity of care.

Answers On-Demand Enhanced health education and interfaces empower patients to access the answers they need when they need them.

The Right Treatment

at the Right Time Insights from patients' genetic codes enable faster and more accurate diagnoses and more effective treatment decisions. There are more than 7 billion people on Earth, each with their own unique genetic code. Patients' genomes can answer medical questions ranging from their risk of developing a particular disease to how they will respond to treatments. This information helps organizations develop new therapeutics and providers prescribe the right treatments for the right patients at the right time.

meaning in genomics and help individuals with diagnosis and treatment decisions. Q Diagnosing and Treating

Rare Disease Rare diseases affect more than 10 MILLION children in the U.S.¹

Nationwide Children's Hospital securely analyzes population-scale genomic data to help providers understand and treat childhood diseases.



Q Precision Treatment Plans

44% of patients with cancer in the U.S.

Cofactor uses multidimensional RNA models to match patients with specialized cancer treatments that are more effective in treating their disease.

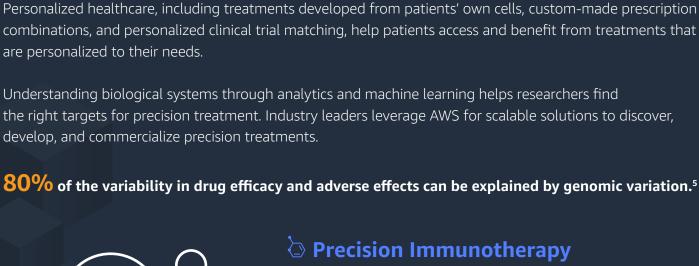
are eligible for immune checkpoint

inhibitor therapy.3

Q Genomics for Mental Health As many as $\frac{2}{3}$ people with depression are not helped by the first antidepressant they try.4 Myriad's GeneSight Psychotropic test analyzes how individuals' genetic variations affect their responses







Cancer vaccines work by stimulating the immune system to attack cancer cells.7 Moderna uses patient's own cancer cells to create personalized mRNA-based vaccines that could treat or



https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8000585/

www.ncbi.nlm.nih.gov/pmc/articles/PMC3234383/.

www.cdc.gov/mmwr/volumes/68/wr/mm6833a3.htm?s_cid=mm6833a3_w.

> Personalized Vaccines

cure cancer.

Medication noncompliance can account for up to 50% of treatment failures, around **125,000** deaths, and up to **25%**

of hospitalizations each year in the U.S.8

medication routines and boosting compliance.

Multiply Labs combines patients' individual prescription combinations into a single daily capsule, simplifying their

injections that harness the power of patients' own

immune systems to destroy tumor cells.



⁶ "Immunotherapy for Cancer," The National Cancer Institute. www.cancer.gov/about-cancer/treatment/types/immunotherapy. September 24, 2019.

⁸ Benjamin, Regina. "Medication Adherence: Helping Patients Take Their Medicines As Directed," Public Health Reports 127 no. 1. (Jan-Feb 2012): 2–3.

7 "Human Papillomavirus–Attributable Cancers — United States, 2012–2016," Centers for Disease Control. 23 August, 2019.

Expanded Access Points

New Ways of

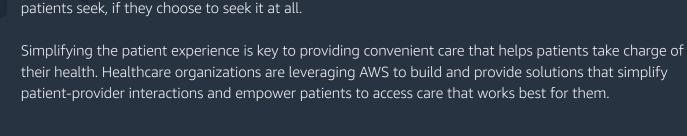
Accessing Care

Innovative interfaces connect patients and providers like never

before, increasing accessibility and ensuring continuity of care.

The autonomy and convenience of consumer purchasing decisions don't always carry over to healthcare, and the industry faces increasing challenges in keeping complex consumer populations engaged in their health. Administrative issues can hinder patient-provider interactions and influence the quality of care

⟨ Virtual Care |



Scheduling, Simplified The average wait time to see a doctor in the U.S. is 24 DAYS.9

Second Speech Recognition For every 1 HOUR spent with



Patient-Driven Health

Responsive Educational Resources

<u>UsAgainstAlzheimer's</u> BrainGuide™ online tool is a

personalized questionnaire that provides education and support, empowering people to understand brain health

76% of adults in the U.S. research

their health online.12

and take the next best action.

patients, physicians spend 2 HOURS

Houston Methodist leverages automated speech recognition to simplify medical documentation, allowing providers to focus more on patients.

on documentation.¹⁰

Enhanced health education and interfaces empower patients to directly access the answers they need, when they need them. Today's patients are more educated and informed than ever. With the internet at their fingertips, patients turn to online resources and each other to find answers. Empowering patients to take ownership for their own health can lead to improved outcomes, enhanced quality of life, and the delivery of more appropriate and cost-effective services.¹¹ Leaders in healthcare technology leverage AWS to connect patients with quality information that helps them make decisions.

Reactive Online Chat Solutions

The healthcare chatbot industry is

expected to grow 24% by 2025.13

MetroPlus Health's pro bono chatbot answers questions and connects its most vulnerable members with the

Cloud-based digital tools connect patients to the answers they need for better health decisions. **Select innovation stories:**

11 Bombard, Yvonne. "Engaging patients to improve quality of care: a systematic review," Implementation Science

¹³ "Chatbot Market by Component, Type, Application, Channel Integration, Business Function, Vertical And Region -Global Forecast to 2026," February 2021. https://www.reportlinker.com/p04985923/?utm_source=GNW.

Consolidated Data

to Health

best treatments and patients to make the best choices.

mental health treatment.

online scheduling.15

A Holistic Approach

Integrated data and services give a comprehensive picture of

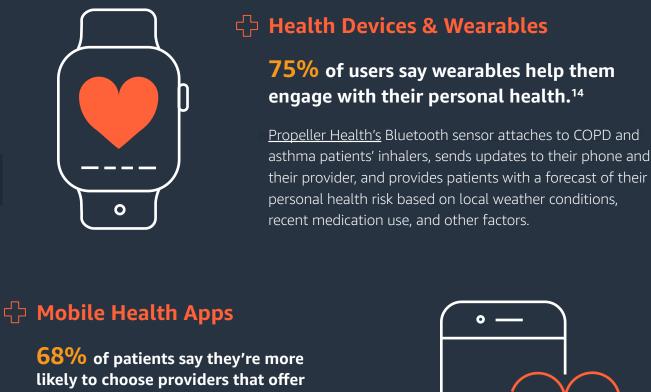
health over time, informing better choices for the mind and body.

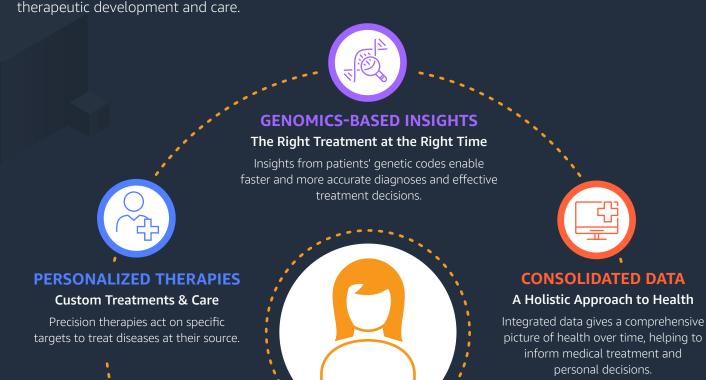
Comprehensive, objective measures of health and lifestyle over time can empower providers to prescribe the

Wearable technologies, mobile health apps, and consolidated health platforms, powered by AWS services and solutions, help consolidate health data to help patients and providers make the most out of physical and

*Us*Against Alzheimer's

13 no. 1 (26 July 2018): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6060529/ ¹² Stewart, Connor. "Use of digital health tools by type in US adults 2015-2019," Statista. www.statista.com/statistics/1102227/adoption-of-digital-health-tools-by-type-us-adults.





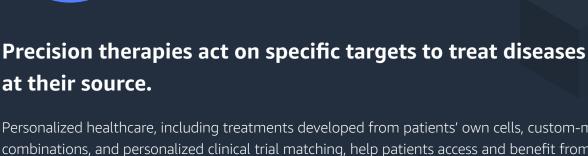
Genomics is quickly becoming a critical piece of clinical decision-making and has become exponentially faster, cheaper, and more efficient in the past decades. The challenge now is making genomics-based care accessible to all. Industry leaders around the world rely on AWS and AWS Partner solutions to find

survival rate for cancer is 4X HIGHER.² GRAIL is conducting what's believed to be the largest clinical study program ever pursued in genomic medicine to be able to screen for the earliest signs of cancer.

to various psychiatric medications, helping to guide treatment decisions for anxiety, depression, and other conditions.

Personal genomic information help with diagnosis and bring forward more informed and effective treatments. **Select innovation stories in genomics:**

⁴ Smitha Bhandari, MD. "Treatment-Resistant Depression." WebMD. (Reviewed 20 June, 2019.) tely%2C%20depression%20treatments%20don't,to%20several%20attempts%20at%20treatment.



at their source.



> Personal Medication Combinations





_ _ _ _ ____ Zocdoc's digital marketplace helps patients search for and schedule with providers directly, reducing the time and effort it takes to book appointments.

Solution Video Conferencing and

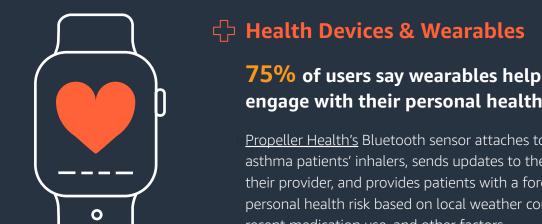
In response to the unprecedented COVID-19 pandemic, Western Australia's leading aged care provider, <u>Juniper</u>, acted quickly to protect vulnerable residents at senior care facilities by connecting them with family and clinicians through video conferencing solutions.

Online Meetings



Answers On-Demand





Centralized Health Data CareMonitor provides a population health management, remote patient monitoring, and telehealth platform. It collects and consolidates data from medical records, devices, and patients to better

Talkspace gives patients tools for accessing

simplified scheduling and educational tools.

therapy and other mental health resources, with



connect them with providers. **Personalized Health Journey Management** Cambia®'s Journi platform provides a digital all-in-one health solution, guided by data-driven intelligence and human expertise, to help health plan members and their families make the most of their health benefits.

mind and body. Propeller talkspace

www. business in sider. com/we arable-technology-health care-medical-devices15 "Accenture 2019 Digital Health Consumer Survey: US Results," Accenture, 2019.

To learn more about how healthcare and life science leaders are building the Era of Personalization with

AWS for Health, visit www.aws.amazon.com/health

Centralized data and technologies help providers and patients make more informed choices, leading to better outcomes for Select innovation stories: *Care* **Monitor** ¹⁴ Phaneuf, Alicia. "Latest trends in medical monitoring devices and wearable health technology," Business Insider. 11 January 2021. $www. accenture. com/t20190208t144039z_w_/us-en/_acnmedia/pdf-94/accenture-2019-digital-health-consumer-survey.pdf. accenture-2019-digital-health-consumer-survey.pdf. accenture-2019-digital-health-consumer-sur$

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